

JFQ

Adaptive Threats

Unified Commands

JV 2010 Technology

Ad Hoc Logistics

**Information
Superiority**

Secretariat Reform



99
Autumn
Winter



If ever again we should be involved in war, we will fight it . . . with all services, as one single concentrated effort.

—Dwight D. Eisenhower



C-17s over North Field,
South Carolina.



1st Combat Camera Squadron (Jeffrey Allen)

A Word from the Chairman

Several articles in this issue touch on transformation, a subject that incites intense interest from various quarters. A common refrain about transformation is that the Armed Forces are not changing quickly enough to meet the challenges ahead (see, for example, “Why No Transformation?” by Andrew Krepinevich found in this issue of the journal). Such critiques offer valuable perspectives but frequently neglect the demands of maintaining a force capable of meeting current threats and the steps already being taken to prepare for the future.

Maintaining the ability to fight and win in two nearly simultaneous conflicts is not only important to defending national interests, but to

providing a force that is flexible and powerful enough to handle the unexpected. Experience shows the difficulty of predicting with any precision what the strategic environment might unfold in ten or twenty years. Surprises occur. Victory does not always go to the strongest. Sometimes it goes to those who rapidly adapt, and our force structure today, based on the two MTW scenario, gives us a hedge against the unexpected.

But we must also make those changes needed to handle emerging threats. Recent alterations to the unified command plan (UCP) provide the organizational foundation to address the most compelling requirements. U.S. Joint Forces

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The cover of this issue features the Army tactical cruise missile system (U.S. Army Field Artillery School/L. Duitsman). The front inside cover shows Marine training at Camp Henson on Okinawa (3rd Marine Division, Combat Camera/Bryant V. Cox); *USS Monterey* in supporting role in waters off United Arab Emirates (U.S. Navy/Christian Eskelund); command and control center capsule inside modified EC-130 aircraft (U.S. Air Force/Lance Cheung); and M-1 tanks during training in Korea (1st Combat Camera Squadron/James D. Mossman). The table of contents depicts airman in Qatar using global positioning system (U.S. Air Force/Corey Clements);

Delta II rocket lifting off, Vandenberg Air Force Base (DOD/Pam Taubman); and Maxwell Taylor with Robert McNamara at the bar (Courtesy Special Collections, NDU Library). The back inside cover features marines in Chile, *Unitas XL* (2nd Marine Division, Combat Camera/Timothy A. Pope). The back cover shows UH-60L during Bright Star '99/'00 (1st Combat Camera Squadron/Jim Varhegyi); LAV-25 rolling across desert (DOD/Patrick Bloodgood); unloading C-5 at Cairo West air base (1st Combat Camera Squadron/Jim Varhegyi); launching F/A-18s for Southern Watch (*USS John F. Kennedy*/Christian Eskelund).

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GEN Henry H. Shelton, USA
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(continued from page 1)

Command has been established to explore new joint warfighting concepts and to plan, design, prepare, and execute joint warfighting experiments. These changes also created two joint task forces specifically for emerging threats. The Joint Task Force for Civil Support will help Federal, state, and local authorities handle incidents involving weapons of mass destruction. The other joint task force is for computer network defense, and in the future we will have a similar organization for computer network attack.

In addition to these organizational changes, a number of efforts are underway that take advantage of incredible increases in information technology to make our forces more lethal, more mobile, and at the same time easier to sustain. The emphasis is on moving information instead of people or platforms.

Last year the Air Force tested a small forward air operations center that reduced its personnel from 1,500 to 300, equipment from 20 C-141 planeloads to 5 C-17 planeloads, and deployment time from 2 weeks to 2 or 3 days. When put into full operation this new arrangement

transformation efforts not only get us to the fight quicker, but also make our forces more lethal by sharing information

meant putting fewer personnel and less equipment forward, leaving more room to get shooters into the theater.

Transformation efforts not only get us to the fight quicker, but also make our forces more lethal by sharing information. During Fleet Battle Experiment Delta in Korea, Apache helicopters, P-3 aircraft, AC-130 gunships, and Navy and Air Force fighters shared a common operational picture. Access to the same information had a potent effect. This arrangement increased the number of hostile special operations boats destroyed and cut the time needed to accomplish the mission.

The Army has found that networking ground force components produces dramatic results. This capability has reduced unit planning time while increasing agility, lethality, and survivability. The enhanced situational awareness provided by networking allows organizations to focus more on killing an enemy and less on keeping track of their own units. When the 4th Infantry Division is fully digitized, it will have 25 percent fewer systems and 3,000 fewer troops, yet be more lethal.



DOD (David C. Mercil)

USS Bonhomme Richard
leaving San Diego
for Southern Watch.

The resources to continue and expand our transformation must come from a parallel revolution in business affairs. We have to learn to do things most efficiently and find ways to reduce the costs of everything from stockpiling spare parts to processing payrolls.

We are moving toward a web-based computer system with satellite tracking that will ensure that joint warfighting packages get where they are needed. Now a warfighter stationed anywhere in the world will be able to log onto a computer and order supplies immediately rather than waiting weeks for a requisition to navigate the bureaucracy. Other initiatives include increased use of commercial equipment, greater competition between our civilian work force and contractors to determine who can best perform certain tasks, and eliminating unnecessary infrastructure.

As always success is dependent on Americans in uniform. We must continue to invest in leading, educating, training, and caring for military and civilian personnel and their families. Moreover, we must identify the skills needed for 21st

century warfare. Men and women who are now entering the military will serve in a very different institution by the end of their careers. We need to make sure they have the training and tools to do their jobs.

There is a lot of work ahead, but I am confident that we are keeping the right balance between maintaining the forces needed to meet the challenges of today with the initiatives to meet the dangers of tomorrow.

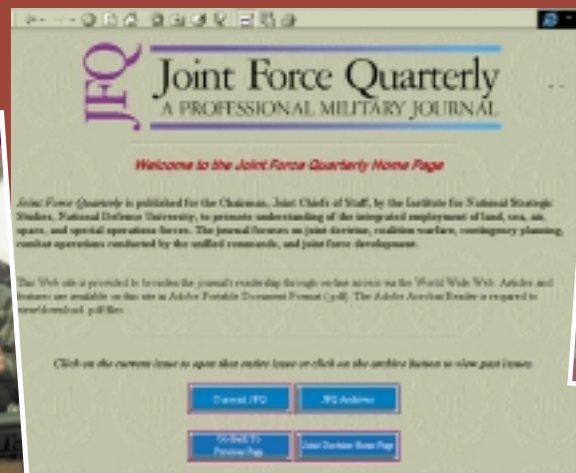
HENRY H. SHELTON
 Chairman
 of the Joint Chiefs of Staff

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Camp Bondsteel,
Kosovo.



55th Signal Company (Tyler Long)

ADAPTIVE ENEMIES

Achieving Victory by Avoiding Defeat

By ROBERT H. SCALES, JR.

Once the dogs of war are unleashed and the shooting starts, conflicts follow unpredictable courses. Clausewitz warned that wars are contests between two active, willing enemies, both of whom expect to win. Once begun, war—with its precise planning and cerebral doctrine—quickly devolves into a series of stratagems and counter stratagems as each side seeks to retain advantages long enough to achieve a decisive end by collapsing an enemy's will to resist.¹

Despite its video game image, the NATO campaign against Serbia was no exception to the Clausewitzian construct. Belgrade sought to overcome a tremendous material and technological disadvantage by capitalizing on its strengths: the ability to gain operational objectives quickly and then disperse to avoid the inevitable aerial assault. The Serbs thought that patience, tenacity, guile, and ground forces sequestered throughout

the countryside would provide an interval to outwait the resolve of the Alliance. The political will of NATO proved stronger. But skill and perseverance on the part of the Serbian army in the face of a thousand aircraft with precision guided weapons is a compelling example of how an adaptive enemy can foil the best laid plans of a superior force by capitalizing on its own inherent strengths while minimizing those of an enemy.

Over the last fifty years Western militaries, particularly the U.S. Armed Forces, have been remarkably consistent in how they fight. They have inherited an extraordinary ability to translate technological innovation, industrial base capacity, and national treasure into battlefield advantages as a result of enormous Cold War outlays. However, in an era of limited war, the commitment to limited ends demands the use of limited means. Thus the lives of soldiers have become even more precious and there is a growing impetus to develop a method of warfare that will replace manpower expenditures with an ever multiplying application of firepower.

Major General Robert H. Scales, Jr., USA, is the 44th Commandant of the U.S. Army War College and author of *Firepower in Limited War*.

B-29 mission in Korea, 1951.



But as Kosovo proved, potential enemies are watching. They realize the preoccupation in the West with firepower. Therefore, we should not be surprised to eventually encounter an enemy who has learned how to nullify the advantages of firepower. We have been slow to perceive the growing effectiveness of an enemy partly because of a

U.S. analysts have missed much of the discourse among military thinkers outside the West

the emerging ability of non-Western forces to counter firepower-centered warfare has been hidden in the shadows of unfamiliar military cultures. U.S. analysts have missed much of the discourse and experimentation among military thinkers outside the West, partly because of the cultural divide between advanced industrial democracies and the rest of the world.

World War II

Serbia was not the first power to use adaptive strategies against the Western way of war. Japan demonstrated its analytical ability to survive firepower-intensive American attacks during the closing months of World War II. In 1943–44 the United States won a series of quick and decisive victories using the mobility and firepower of its amphibious forces. But the Japanese carefully observed this method of attack and by the end of 1944 had entirely revamped their defensive plans for the islands guarding the approaches to their homeland.

characteristic arrogance that presumes that, to be a threat, it must pose a symmetrical challenge or mimic the Western way of war. As a result,

On Okinawa the Japanese troops abandoned the failed doctrine of beach defense and buried themselves in a vast array of pillboxes, switch lines, and deep bunkers to carry out an extended defensive scheme centered in southern Okinawa. They recognized that they could not match American firepower and maximized what firepower they had, using mortars and artillery with enough deadly effect to not completely cede the advantage to U.S. forces. Fighting their way through deep defensive lines, American troops eventually took the island and destroyed the Japanese Tenth Army—some 70,000 enemy soldiers and an equal number of civilians killed. But the U.S. casualty list was horrendous: 65,631 killed or wounded.

The Chinese Civil War

Another effort to redefine and codify an Eastern approach to defeating the Western way of war began in the mountain fastness of Manchuria immediately after World War II. Mao Tse-Tung and his marshals adapted doctrine from their wartime guerrilla campaigns to fit a conventional war against an enemy superior in technology and matériel. Mao perfected his new way of war against the Nationalists between 1946 and 1949. His simple concepts centered on three tenets, the most important of which was area control. To succeed, Mao's army first needed to survive in the midst of a larger, better-equipped enemy.² He divided his troops into small units and scattered them. Maintaining cohesion thus remained his greatest challenge.

Once his own forces were supportable and stable, Mao applied the second tenet—to isolate and compartmentalize the Nationalists. The challenge of this phase was to leverage control of the countryside until the enemy retreated into urban areas and along major lines of communications.³ The final act of the campaign called for finding the enemy's weakest points and collecting and massing overwhelming force against each sequentially, similar to taking apart a strand of pearls one piece at a time. Mao's new style of conventional war, though effective, demanded extraordinary discipline and patience under extreme hardship. It also sought quick transition from an area control force to one capable of fighting a war of movement.

Stalemate in Korea

Within a year of the Chinese Civil War, America severely tested Mao's methods in Korea. Initially the People's Liberation Army (PLA) badly misjudged the effects of American artillery and

Artillery support,
Korea.



U.S. Army

tactical airpower. Pushed quickly into maneuver warfare, the Chinese massed in the open, often in daylight, to expand their control over the northern Korean peninsula. They extended their narrow lines of communications farther down the mountainous spine of Korea while advancing. But they soon found their logistic support exposed to American airpower and paid a horrid price for their haste. The Spring 1951 offensive mounted by the Chinese sputtered to a halt as U.S. artillery and aerial firepower slaughtered PLA soldiers in masses and air interdiction cut their lines of supply and forced a retreat back across the Han.

Brutal experiences led to sober lessons relearned from the civil war. The Chinese quickly adjusted to a new situation. Over the following two years their attacks were limited and controlled. The high command learned to hold most key logistic facilities north of the Yalu River, out of reach of U.S. air strikes. South of the river they dispersed and hid, massing only to launch attacks. Soldiers moved at night and chiseled their front lines of resistance into granite mountains. American casualties mounted while the Chinese stabilized their own losses at a rate acceptable to Beijing. Many more Americans died during the stability phase than in earlier days of fluid warfare. What was an acceptable human toll to China was unacceptable to the United States. The result was operational and strategic stalemate. But to the Chinese, stalemate equaled victory.

The Vietnam Experience

Over the next two decades the Vietnamese borrowed from the Chinese experience and found creative ways to lessen the killing effect of firepower, first against the French and then the Americans. They also proved skilled in adapting to the new challenges posed by their Western enemies. The Viet Minh based their tactical and operational approach on Mao's unconventional methods. Their conduct of the battle was remarkably reminiscent of siege operations conducted by the PLA during the civil war. In both cases the secret of success was dispersion and preparation of the battlefield. The Viet Minh remained scattered in small units to offer less detectable and less lucrative targets and to allow their troops to live off the land. Fewer supply lines and logistic sites offered even fewer opportunities for interdiction fires.

To win, the Chinese, and eventually the Viet Minh, needed to attack. That demanded the ability to mass temporarily. The Viet Minh had to exercise great care in massing under the enemy umbrella of protective firepower. Superior intelligence indicated the right time and place. The ability to collect and move tens of thousands of soldiers at the right moment allowed attacking forces to collapse French defenses before firepower could regain the advantage. This capacity to "maneuver under fire," perfected against the Nationalists and the French, reached new levels

Loading A-10A,
Desert Storm.



DOD (Trambue Prentiss)

of refinement during the second Indochina War against the United States.

General Giap quickly accommodated his strategic plans to the new realities of American firepower. The North Vietnamese relearned the importance of dispersion and patience. They re-distributed their forces to keep their most vulnerable units outside the range of American artillery while moving their logistic system away from battle areas into sanctuaries relatively safe from aerial detection and strikes. Thus they dusted off and applied many of the same methods that had proven useful in previous Asian wars against Western style armies.

Afghanistan

Half a decade later, and half a continent away in Afghanistan, the Soviets learned the same harsh firsthand lessons of overconfidence when first world militaries confront third world forces which have the will, tenacity, and skill to remain effective despite firepower inferiority. Year after year, the Soviets arrayed themselves for conventional combat and pushed methodically up the Panjir Valley only to be expelled a few months later by a seemingly endless and psychologically debilitating series of methodical and well-placed ambushes and skirmishes. Borrowing a page from the American textbook in Vietnam, the Soviets tried to exploit the

firepower, speed, and intimidation of armed helicopters. They employed them principally as convoy escorts and to provide fire support. At times, Hind helicopters proved enormously lethal, particularly early on when the Mujahideen were psychologically unprepared. But the guerrillas eventually turned back to the Vietnam experience, employing heavy anti-aircraft machine guns and then Stinger shoulder-fired missiles to shoot the gunships down in increasing numbers. Military frustration and defeat in Afghanistan presaged the collapse of the Soviet Union.

Israel and the Middle East

Beginning in 1982, after nearly three decades of failure in open warfare, an alliance of Arab state and non-state actors pushed Israeli mechanized forces out of Beirut. Back streets, tall buildings, and other urban clutter provided the Arabs just enough respite from intensive firepower to wear away Israeli morale in the field and at home. Unable to bring superior maneuverability and shock effect fully to bear, the Israelis paused just short of their operational objectives. Excessive casualties and the public images of bloody excesses on both sides eventually resulted in Israeli withdrawal. This success provided Israel's enemies with a promising new method to offset its superiority in open mechanized combat. Now a spectrum of low-tech threats that run the gamut from weapons of mass

destruction delivered by crude ballistic missiles, to acts of terrorism, to children throwing rocks at soldiers confront an increasingly frustrated Israeli military and public.

An irony of the recent wars in the Middle East is that Western style militaries have had

as the air campaign began to focus on Iraqi forces in Kuwait, the enemy quickly adapted

great success against non-Western enemies who mimic their own firepower doctrines. The Gulf War is the most recent example of failed efforts

by Arab states stretching back to 1948. In 1973 Arab armies enjoyed some measure of success applying Western methods, but that was as much a result of Israeli overconfidence as of limited Arab objectives.

The Gulf War

Despite extraordinary incompetence on the part of the Iraqi leadership, the enemy displayed considerable capacity to adapt on the battlefield during Operation Desert Storm. As the American air campaign began to focus on destroying Iraqi ground forces in the Kuwait theater during early February, the enemy quickly adapted. By constructing berms around tanks and scattering them across the desert, they ensured that aircraft dropping precision guided bombs could at best destroy only a single vehicle per pass. Burning tires next to operational vehicles spoofed attackers into missing

real targets. Moreover, effective anti-aircraft fire kept many coalition planes too high to do substantial damage.

The best trained Iraqi units endured weeks of allied air bombardment with unbroken will and their combat capability intact. The most impressive indication of the Iraqi ability to adapt came in the operational movement of a substantial portion of the Republican Guard during the first hours of Desert Storm. Elements of two divisions shifted from a southeastern defensive orientation to defensive positions that faced southwest along Wadi al-Batin. There the Tawakalna Division and the 50th and 37th Armored Brigades would be destroyed by VII Corps.⁴ Nevertheless, sacrifices by these enemy units allowed the rest of the Republican Guard to withdraw. Significantly, Iraqi forces escaped through terrain and under weather conditions that were suited to their interdiction and despite overwhelming coalition airpower.

NATO and Kosovo

Placed in historical context, the Serbian response to the NATO onslaught is simply another data point on a continuum of progressive, predictable adaptations by technologically dispossessed forces willing to challenge Western militaries with superior precision firepower. Like their Asian fellow travelers, the Serbs sought victory by avoiding defeat. In a similar fashion, they conceded the vertical dimension of the battlespace to NATO. They were content to shoot down a few aircraft using ground mounted guns and missiles.

Coordinating airstrikes, Deliberate Force.



DOD (Diane Trivick)

This hope was underscored by an expectation that a few dead or captured Allied airmen would gradually degrade NATO resolve. Even if a shootdown was impossible, the Serbs sought to keep their anti-aircraft assets robust because ground targets would be difficult to spot from high altitudes.

The surest way to avoid defeat was keeping the army in the field viable—both as a defiant symbol of national resolve and legitimate Serbian guarantor of sovereignty over occupied territory. To maintain an effective army in being, the Serbs likewise depended on precedents. Units quickly went to ground and dispersed widely. They rapidly computed the pace at which the Allies could find, target, and strike uncovered assets and then devised ways to relocate mobile targets inside the Allied sensor-to-shooter envelope. They replicated camouflage, decoys, and spoofing techniques proven effective by Asian armies. As the Allies became proficient at spotting troops, Serbs sought greater dispersal and went deeper to ground.

Toward the end, the coalition gained a significant airpower advantage with the appearance of an infant ground presence in the form of the Kosovo Liberation Army (KLA). This force was not very effective

in open combat against the better armed Serbs, but the presence of large scale KLA units among them forced the Serbs to come out of protective cover and mass. The results were remarkably consistent with past experiences against China and North Vietnam. Troops moving, massed, and in the open present the most lucrative targets from the air. Yet the Serb forces were never severely damaged because they were too large and protected to be erased by aircraft. Since total destruction was not feasible, as in all battles of attrition the contest in Kosovo soon devolved into a test of time and will. Victory would go to the side that could endure the longest without their will collapsing. Once it became evident to Milosevitch that NATO resolve would not be broken before a threatened ground assault could materialize, he ceded Kosovo to ensure his own political survival.

Implications for the Future

Kosovo reinforces the conclusion that non-Western militaries are increasingly internalizing the lessons of wars against technologically superior enemies. Recent works on the operational and tactical problems of fighting Western style militaries suggest clear warnings. First, non-Western enemies understand Western military vulnerabilities: aversion to casualties and collateral

Remains of the day in Klokot, Kosovo.



55th Signal Company (Tyler Long)



Effects of anti-tank mine near Kaminca, Kosovo.

55th Signal Company (Cory Montgomery)

damage, sensitivity to domestic and world opinion, and lack of commitment to conflicts measured in years rather than months. They also perceive that Americans, in particular, retain a style of war focused on the single offensive dimension of precision strike. Moreover, they are already considering how to target Western vulnerabilities while capitalizing on their intrinsic advantages: time, will, and the inherent power of the defensive. Borrowing from Mao and Giap, future enemies have learned the value of time and patience. From their perspective, swift success is not essential to victory.

Future enemies have also realized the advantage of interfering with an intruder's intention to end a conflict quickly at minimum cost. Moreover, non-Western armies have learned to limit

information technology will not simplify decisionmaking but make it more complex

the effect and duration of air campaigns by dispersing not only their forces, but telecommunications, logistics, and transportation infrastructures. They also understand that so-

phisticated air defenses, whose effectiveness depends on airfields, surface-to-air missile sites, and vulnerable command and control nodes, have become liabilities more than assets.

Once the ground conflict begins, enemies understand they must use superior mass to offset the lethal firepower and precision technology of Western armies. They will capitalize on the positional advantages of being on the defensive in or near their territory. As they gain confidence, they will search for opportunities to mass sufficient force to achieve local successes. As in the air campaign, they will seek to frustrate Western ground forces with just enough modern weaponry to extend the campaign indefinitely. A few precision cruise missiles against major logistic bases will add to the casualty rates that Western militaries must explain to their citizens. The object will not be decisive victory but stalemate. A prolonged stalemate will erode Western political support for the conflict.

Early Signals of Change

As non-Western militaries develop concepts for defeating the American firepower-centered method of war, the character and composition of their forces is changing. The Cold War impulse to clone Western force structures is disappearing. Foreign militaries are taking on their own identities. The mountains of metal, consisting of expensive yet often second-rate land, sea, and air machines that serve as lucrative targets are rapidly vanishing. In particular, non-Western armies are becoming lighter. The need to survive and remain effective against the threat of overwhelming killing power is forcing them to disperse, hide, or eliminate the vulnerable logistics, transportation,

and telecommunications facilities that now characterize the Western way of war.

Evidence of this trend can be found on the shopping lists of emerging militaries. Instead of sophisticated aircraft and blue water navies, most are pursuing cheap weapons of mass destruction and the methods of delivering them. Sea and land mines as well as distributed air defense weapons suggest that the intent of these militaries is to use such weapons to keep potential enemies at bay. Most expenditures and attention go to land forces because armies provide political legitimacy in nondemocratic states. They are also useful instruments for waging regional wars of aggression and sure means for suppressing internal dissent and thwarting troublesome outsiders.

Information Age Neutrality

Too many in the West think they can confront a major competitor by exploring information age technologies to develop ever more effective means of finding an enemy and destroying it from a distance. This premise is troubling. The most obvious concern is that the information revolution will be neutral or even favor the competition because they can tailor new technologies to their style of war without becoming information-dependent. Also, the amount of information is drowning commanders, staffs, and intelligence organizations, a byproduct of the information age that has not been resolved. It is clear that information technology will not simplify decisionmaking but make it more complex. Future enemies, however, will require much less information to strike effectively, particularly because their aim is not decisive victory. They will be, moreover, less dependent on the microchip. A thinking enemy will quickly realize that our intensive reliance on information age technologies becomes a weakness that can turn into an asymmetric target.

Military literature published abroad, particularly in Asia, reveals that many armies already place extraordinary emphasis on information operations and warfare. At present American analysts take comfort in the observation that few have made serious investments in information warfare or precision systems similar to the West. They fail to see that Asian militaries understand that information technology will also favor their style of warfare. In particular, the Internet and wireless non-nodal communication will allow dispersed armies to mass rapidly. As information becomes more secure and information centers are more distributed and less vulnerable, enemies will wield more flexible land forces. Moreover, they can be

F-15 at RAF Lakenheath during Deliberate Force.



DOD (Paul Caron)

organized into smaller and less detectable increments. Ironically, information technology may offer an enemy the solution to two vexing problems. First, both cellular technology and the Internet may facilitate a concert of action for long periods among widely separated units. Second, these technologies will allow them to orchestrate the rapid massing of dispersed units when opportunities arise to transition to the offensive.

The result may be a foot race that either side could win. As technologies are developed to find an enemy, that enemy will in turn develop technologies to hide. The prospect becomes more sobering as one considers that commercial sources provide competitors with the means as Western research perfects non-nodal, distributed, and net-centric information technologies for customers in every part of the world. Moreover, potential enemies do not have to spend a dime to develop such systems. And it should be remembered that they have a very different strategy in mind for the next war. They need only create a stalemate and inflict sufficient casualties to raise political difficulties for leaders who decided to intervene, as Neville Chamberlain remarked, in “a quarrel in a far away country between people of whom we know nothing.”

Defeating Adaptive Enemies

Clausewitz offers a harsh dictum:

*War, however, is not the action of a living force upon a lifeless mass (total nonresistance would be no war at all) but always the collision of two living forces. The ultimate aim of waging war . . . must be taken as applying to both sides. Once again, there is interaction. So long as I have not overthrown my opponent I am bound to fear he may overthrow me. Thus, I am not in control: he dictates to me as much as I dictate to him.*⁵

It is this point that Western—particularly, American—militaries are in danger of forgetting. Future enemies will have carefully considered how to attack our weaknesses.

To be sure, firepower can be paralytic. But such effects are fleeting. Armies have shown time and again that they can become inured to the effects of firepower and can learn creative ways to lessen them. Add the ability of non-Western armies to utilize the advantages of time, mass, will, and the defensive, and the single American advantage of superior killing power becomes less persuasive as an instrument of war.

The corollary to Newton’s fundamental law of physics resounds with a sense of urgency: every technical or tactical innovation that provides a dominant military advantage eventually yields to a countervailing response that shifts the advantage to the opposing force. American dominance in firepower and attrition warfare has been on display for five decades. Challenges that will seek to capitalize on a preoccupation with precision strike must be anticipated. Balance must be restored in our method of war. Our future capabilities must include a 21st century sword with two equally compelling edges: precision maneuver and precision firepower. Without both applied in harmony, conflicts might devolve into massive wars of attrition. Let us begin now to take on the challenge of an adaptive enemy and to build a balanced force to defeat it. **JFQ**

NOTES

¹ This thesis originally appeared in Robert H. Scales, Jr., “Adapting Enemies: Dealing with the Strategic Threat after 2010,” *Strategic Review*, vol. 27, no. 1 (Winter 1999), pp. 5–14. Portions of the above articles are reproduced here with permission.

² Mao Tse-Tung, *Selected Works of Mao Tse-Tung*, Vols. I and III (Beijing: Foreign Language Press, 1967); William H. Whitson, *The Chinese High Command: A History of Communist Politics, 1927–1971* (New York: Praeger, 1973).

³ Frederick Fu Liu, *A Military History of Modern China: 1924–1949* (Princeton: Princeton University Press, 1956).

⁴ Robert H. Scales, Jr., *Certain Victory: The U.S. Army in the Gulf War* (Washington: Office of the Chief of Staff, U.S. Army, 1993).

⁵ Carl von Clausewitz, *On War*, edited and translated by Michael Howard and Peter Paret (Princeton: Princeton University Press, 1976), p. 77.

A-6 taking off from USS Independence near Taiwan.



U.S. Navy (Stephen Bantz)

Recipe for Failure

Centralization and U.S. Joint Forces Command

By SUSAN E. MERDINGER

Events over the last decade have revealed that the command structure of the Armed Forces, as manifest in the unified command plan, is outmoded. The promise of technology—better, faster, and cheaper—has led many to conclude that we can do a lot more with a lot less. A combination of technological upgrades and fiscal constraints would imply that streamlining commands will cut costs, increase efficiencies, and enhance capabilities. Not often considered in this equation is the impact that centralization has on the warfighting CINCs and their ability to win conflicts.

Centralization versus Decentralization

In September 1999, Secretary of Defense William Cohen announced a change in the unified command plan that redesignated U.S. Atlantic Command (ACOM) as U.S. Joint Forces Command (JFCOM). Although not many details on its responsibilities were elaborated, the National Defense Panel proposed in 1997 that such a command would be:

the common force provider of combat-ready forces to all other commands for joint and combined operations. This command would be responsible for the force readiness and training of all active and Reserve components based in the United States . . . for developing and validating joint doctrine for the approval of the Joint Chiefs; conducting joint experimentation; directing joint battle laboratories; and overseeing

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other joint innovation and experimentation efforts described elsewhere in this report. The Joint Forces Command is responsible for all joint modeling, simulation analysis, and concept development.

This one-stop-shopping CINC will control a wide range of activities. Proponents of centralization are correct in pointing to cost savings, better use of technology, tighter control of information, and focused problem solving. But there are risks. In analyzing why failures occur in war, Eliot Cohen and John Gooch refer to the “organizational dimension of strategy.” The ability of an organization to handle challenges, especially on higher levels, is often ignored. Expecting too much from one command could sacrifice warfighting effectiveness for peacetime efficiency.

The following article does not attempt to develop a roadmap for JFCOM. Instead it raises concerns over the establishment of new command structures. The tendency to regard centralization

as an organizational panacea demands an examination of the opposite view—the adverse effects of creating new commands and their impact on the warfighting equation.

A Case Study in Failure

Our northern neighbors have provided valuable lessons on centralization of a modern force. Since the Canadian Forces Reorganization Act of 1967, that nation’s military has centralized nearly all of its organizational structure. The act abolished separate services and formed a single defense establishment with coequal land, sea, and air branches. After an extensive management review in 1972, further centralization integrated the Department of National Defence and the Canadian Forces Headquarters into one staff, the National Defence Headquarters (NDHQ). These changes had far reaching effects and resulted in a breakdown of discipline during peace operations in Somalia.

Training the Canadian Airborne Regiment Battle Group for duty in Somalia revealed a lack of innovative thinking and a predilection for predictability. It relied on preparing troops who

expecting too much from one command could sacrifice warfighting effectiveness for peacetime efficiency

Canadians patrolling in Somalia.



Canadian Airborne Regiment (Ed Dixon)

were trained for high intensity conflict to operate at the lower end of the continuum as well. Moreover, it was believed that additional training could be accomplished in the period between warning order and deployment, which could be a matter of days or months. Finally, since the unit had been prepared for a peace operation in the western Sahara, only minimal training was deemed necessary for a deployment to Somalia.

Following an extensive study, the Commission of Inquiry into the Deployment of Canadian Forces to Somalia concluded that there was no “clearly defined and conceptualized training system for peacekeeping missions that reflected changes in the peacekeeping field at the time” and ascribed the problem to the unified structure of the armed forces. Because of poor organization and training the unit lacked the stamina and flexibility to rapidly adapt to the dynamics of changing missions.

What You Really Get

For Canada, centralization led to a diarchy within NDHQ that generated confusion between

military and civilian components. By the mid-1980s weaknesses began to appear in the unification experience. As one critique declared:

The Canadian army is in crisis. Its command structure is ineffective. Its soldiers are demoralized. Its equipment is outmoded and inadequate for many of the tasks to which it is assigned. The causes of the problem can be traced to . . . political indecision, peacetime neglect, and budgetary cutbacks. But perhaps most crucially, the ability of the army to carry out its essential function, which is to maintain the capacity to fight wars, has been undermined by the process of bureaucratization initiated by passage of the Unification Act of 1968 and reinforced by later structural changes. This process has transformed and disfigured the military command structure at every level, from the Chief of Defense Staff to the so-called Hellyer corporal, with disastrous results.¹

The failure of centralization to adapt to conditions in Somalia offers a significant lesson for American forces. In its training plan for 1997–2000, ACOM provided a roadmap for its successor organization, JFCOM, through a three-tiered system. The first tier is unit level training performed by service components, the second consists of joint tactical field exercises that enhance service and multinational interoperability, and the third engages joint task force commanders.

The Canadian Mission to Somalia

In 1992 the United Nations, concerned with the breakdown in the national government of Somalia and the specter of famine, sought international help to provide food and restore law and order. In December, after months of planning and training and a shift in mission from peacekeeping to peace enforcement, Canadian troops were deployed as part of a coalition force. Many belonged to the Canadian Airborne Regiment Battle Group (CARBG), composed largely of personnel from the Canadian Airborne Regiment.

On the evening of March 16, 1993, members of CARBG bound and beat a Somali youth near Belet Huen, an incident which drew international attention. In 1995 the Canadian government launched a multi-year public investigation through the Commission of Inquiry into the Deployment of Canadian Forces to Somalia. It was one of the most exhaustive investigations in Canadian military history. The resulting report, based on 38,000 pages of testimony from 116 witnesses and 150,000 documents and countless published sources was released in July 1997 as a five-volume study entitled *Dishonoured Legacy: The Lessons of the Somalia Affair*.



Canadian National Defence Headquarters (Grosbeil)

U.S. and Thai personnel, Cobra Gold '96.



DOD (Stephen Batiz)

out of joint

can one command be expected to possess the innovation and flexibility demanded by regional idiosyncracies?

JFCOM control of second tier training for CONUS-based active and Reserve forces raises concern over its ability to adapt to the training requirements of the geographic CINCs. Under such an expanded charter, can one joint command be expected to possess the innovation and flexibility demanded by regional idiosyncracies? Would not the scope of the JFCOM charter mean less detail

and more pro forma training regardless of the need by theater CINCs for mission essential tasks that satisfy their respective training needs? And what about the innovation which the services bring to

training on this level? Their contribution would be reduced if JFCOM controlled training levels for CONUS-based forces. Predictability and uniformity must not become part of joint training in an effort to achieve efficiency. On the other hand, assigning second tier training to only one CINC runs the risk of neutralizing the flexibility and innovation gained from the interaction among unified commands and service components.

Innovation is also crucial in training with allies because U.S. forces are likely to fight wars as part of a coalition, which requires more combined training in varied environments. ACOM set the standard for combined training in its *Joint Training Plan, 1997–2000*, which states: “Joint and NATO doctrine will be the foundation that fundamentally shapes thinking and training for joint and multinational military operations.” As

the organizational concept for JFCOM evolves, it might slip into a Eurocentric cookie cutter mindset that is not adaptable to every theater.

That is certainly true when applying a multinational training paradigm to the Pacific theater. U.S. Pacific Command (PACOM) is the largest regional command, encompassing 105 million square miles and 44 countries with some 60 percent of the world population. Of seventeen CJCS-sponsored exercises conducted in the area, seven are combined and none are multinational. Moreover, adopting NATO training as a template is quite difficult not only because European systems, tactics, and doctrine are not applicable on the Korean peninsula, but because its documentation cannot be released to Asian allies without concurrence from every NATO member.

The current command structure is not broken. Under Title 10, PACOM can train forces for contingencies by incorporating theater-unique requirements while simultaneously accommodating its bilateral training partners. This would be lost under the JFCOM approach with one-size-fits-all combined training. If CINCs are expected to shape the environment, they must have training tools to forge alliances and keep forces well honed to the needs of both allies and friends in the region.

JTF staff training on the third tier appears to be the most suited for JFCOM. As the driver of joint training on this level, it can sharpen the

skills of senior personnel and staffs by integrating service expertise to foster jointness at the highest levels.

Creating Complexity

Centralization establishes a more complex organization that slows the flow of information and reduces accuracy. Added layers require more time for coordinating change. Creating a single command to train and provide all CONUS-based forces to regional CINCs introduces another node in the warfighting process.

Imagine how it might work. PACOM would request forces through the Joint Staff which, in

centralization establishes a more complex organization that slows the flow of information and reduces accuracy

turn, would identify the requirement to JFCOM; that command would direct its components to nominate ready forces; JFCOM would seek the validation of those forces by the Joint Staff,

which then would notify JFCOM and the unified CINC. Isn't this more complex than the current system under which PACOM requests validation for its contingency from the Joint Staff, identifies its own trained forces, and employs them? And what guarantees that at the end of this long "do-loop" of requests and validations this new system won't identify the wrong forces for the regional CINC?

Students of organizational behavior have found that "effective supervision requires that the supervisor's attention not be divided among too

many subordinates."² The lesson is that the more complex the organization, the more complex the participants; the more complex the participants, the greater the competition for resources. The ability to regulate the larger organization and the internal competition it generates becomes a major span of control issue.

JFCOM will also spur competition on many levels in a resource constrained environment. Internally it must allocate resources among demands for joint training, doctrine, experimentation, integration, and providing forces for unified CINCs. Externally it will compete with other CINCs for scarce assets as well as the services for finite training funds and time. This is a critical point. Where will the funding and time it takes to train jointly be generated? The short answer is from the services. But this approach endangers the backbone of joint training the services provide. One can hardly expect joint proficiency if the services have not mastered their own functional areas. Joint training compliments service training but it is no substitute. Forces that have attained the required level of service proficiency are integrated into the joint arena to form a complete warfighting team. Gains made in joint capability at the expense of service core competencies will not improve overall effectiveness and come at the expense of readiness. Actual military misfortunes "... can never be justly laid at the door of any one commander. They are failures of the organization, not of the individual."³

The need for change is not at issue here. Rather it is the rush to embrace an organizational paradigm that offers benefits in dollars but no discernable gain to the capability that really counts, warfighting. Will this new organization produce a force that is flexible, responsive, and adaptable? Or will it become a lumbering, overburdened system whose principal accomplishment is providing symmetry to an organizational chart?

JFQ

NOTES

¹ Review of *Significant Incident: Canada's Army, The Airborne and the Murder in Somalia* by David Bercuson, <http://www.mclelland.com/bercuson.htm> (August 3, 1998).

² Hal G. Rainey, *Understanding and Managing Public Organizations*, 2^d ed. (San Francisco: Jossey-Bass, 1996), p. 272.

³ Eliot A. Cohen and John Gooch, *Military Misfortunes: The Anatomy of Failure in War* (New York: Macmillan, 1990), p. 3.

Readiness exercise at Fort Dix.



1st Combat Camera Squadron (Cecilio M. Picarob, Jr.)

Launching unarmed intercontinental ballistic missile.

SPACE



Satellite system simulation, Guardian Challenge.

DOD (Scott Wagers)

30th Communications Squadron (Cherie A. Thurby)

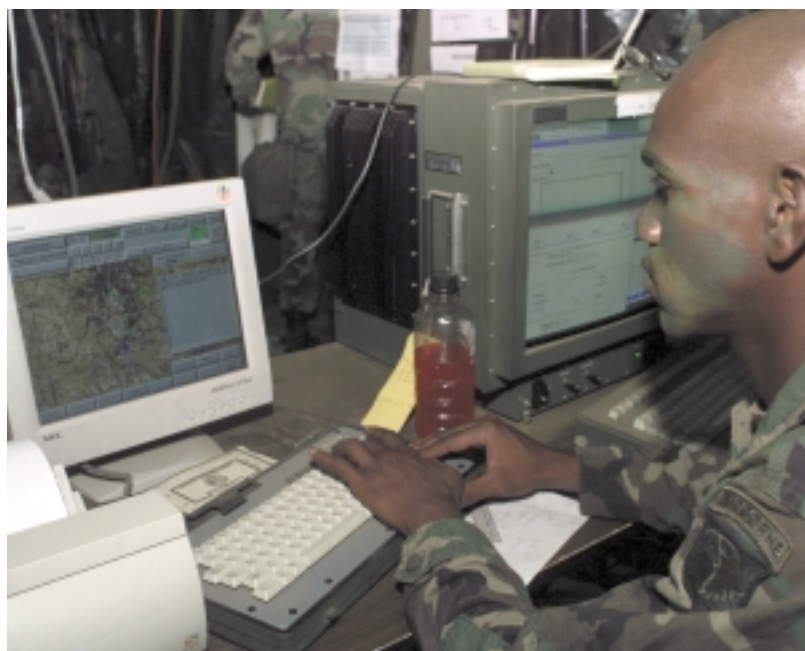
The Next Area of Responsibility

By KERRY L. KIMBLE *and* RUDY VEIT

In the years ahead military operations will become ever more dependent on space services such as global communications, reconnaissance and surveillance in near real time, missile warning, navigation, and weather forecasting. These capabilities will integrate the effects of

widely dispersed platforms and forces, provide dominant battlefield awareness, and facilitate precision engagement and dominant maneuver. U.S. national interests and investments in space must thus be protected to ensure freedom of action. Space systems must be synchronized with warfighting capabilities. In turn, commanders must shape, protect, and defend space. It is time to recognize that space is a center of gravity and a critical national security responsibility.

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55th Signal Company (Aron Robert Kughen)

Tracking friendly vehicles with GPS sensors.

the region is becoming a crowded area of competition in which the United States can no longer act with impunity

Space has only recently been considered a vital strategic region. Its assets constitute a node that an enemy might seek to disrupt or destroy in

the early stages of a conflict to neutralize the U.S. force advantage. This threat, coupled with a growing web of dependence on such assets for civil, commercial, international, and military operations, suggests that now is the time to establish a space area of responsibility (AOR). There should be a single military focal point for all space assets which support national interests and warfighting requirements.

Interests and Threats

The *Report of the Quadrennial Defense Review* (QDR) issued in May 1997 outlined several national interests that in some cases require unilateral use of military power. One is “ensuring freedom of the seas and security of international sea lines of communication, airways, and space.” The basis of this approach lies in the *National Space Policy* (September 1996), which declares:

National security space activities shall contribute to U.S. national security by deterring, warning, and, if necessary, defending against enemy attack; assuring that hostile forces cannot prevent our own use of space; and countering, if necessary, space systems and services used for hostile purposes. The United States will develop, operate, and maintain space control capabilities to ensure freedom of action in space and, if directed, deny such freedom of action to adversaries.

Space assets are integral on the strategic, operational, and tactical levels. *Joint Vision 2010* states that, “Each CINC must be able to tap into this global network and connect forces worldwide that would be available for theater operations.” Not doing so restricts the ability to employ forces.

Because of the reliance on these systems, their survivability is a critical node. In the words of the QDR report:

Unless we provide an adequate measure of protection for our forces, these new operational concepts will be highly vulnerable to disruption. We will achieve this . . . protection through the concept of full dimensional protection. . . . Active measures will include battlespace control operations to guarantee the sea, air, space, and information superiority that is needed to gain the degree of control to accomplish assigned tasks.

The report further describes critical enablers that shape power projection, impact ability to shape the international security environment, and provide the capability to react to a range of crises.

Global intelligence collection, navigation support, meteorological forecasting, and communications rely on space-based assets. To maintain our current advantage in space even as more users develop capabilities and access, we must focus sufficient intelligence efforts on monitoring foreign use of space-based assets as well as develop the capabilities required to protect our systems and prevent hostile use of space by an adversary.

But the region is becoming a crowded area of competition in which the United States can no longer act with impunity. It is not necessary to invest billions in the development of satellites, launch vehicles, or networks to monitor, control, and receive data. There are two ways for a state to gain access to such assets. The first is to join a consortium, a global or regionally oriented body such as the European Space Agency, AsiaSat, or ArabSat. The second is to buy specific products such as transponder time on communications satellites or high resolution imagery.

Satellite reconnaissance is a particular concern. The National Defense Panel issued a report in December 1997 that explained the problem:

The commercial development of information technology is so widespread, accessible, and cheap that it promises to create both opportunities and risks for our Nation. The entity that has greater access to, and can more readily apply, meaningful information will have the advantage in both diplomacy and defense. This information area will also create new vulnerabilities as we depend more and more on computer systems and telecommunications to manage financial operations, public utilities, and other key elements of economic systems.

Navigation, critical in responding to global or regional crises, is another area in which asset protection has gotten high level interest. According to the QDR report the package designation

Atlas II in launch complex at Cape Canaveral.

Checking handheld GPS units for pilots.

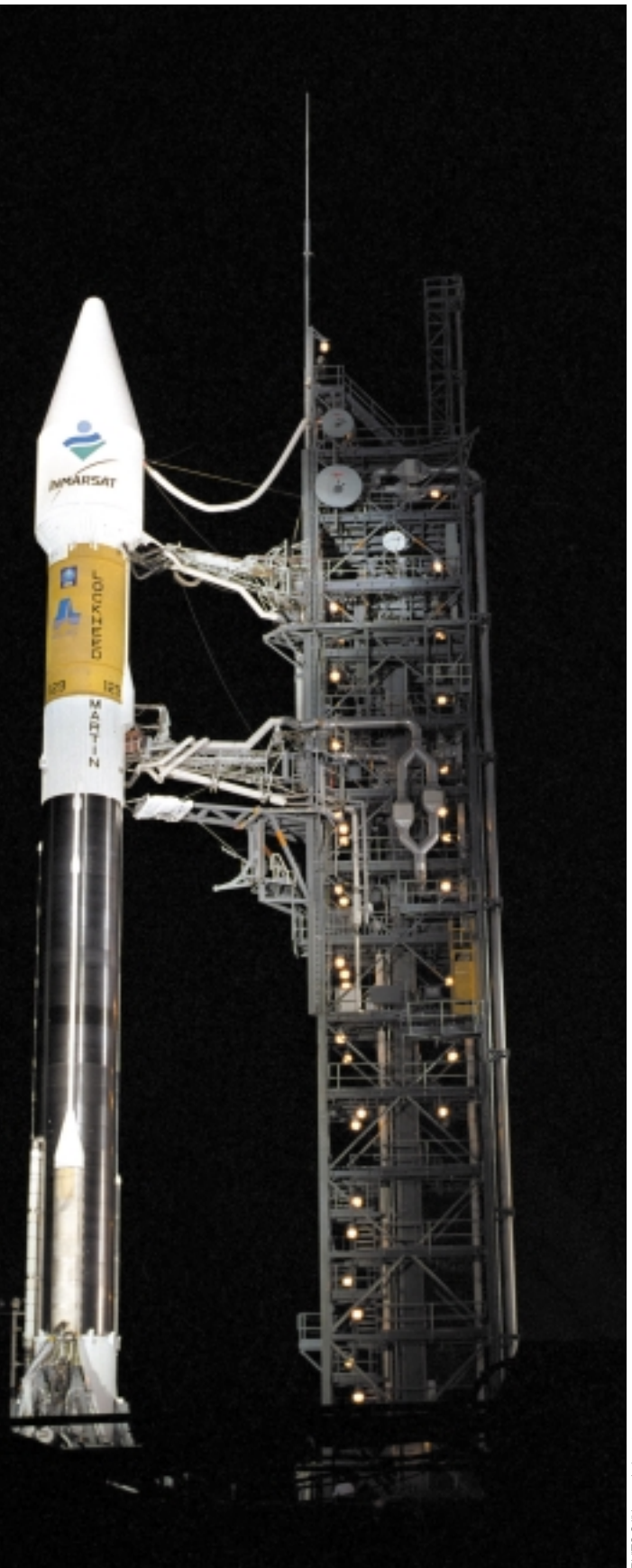


51st Communications Squadron (Lance Cheung)

Space communications, Kapaun air station, Germany.



DCD (Ken Wright)



RVTS Still Image Laboratory

and description file on global positioning systems (GPS) directed the Department of Defense in March 1996 to pursue the protection of access to positional information in the face of potential electronic jamming and also develop an ability to deny an enemy use of GPS.

Why an AOR?

U.S. Space Command (SPACECOM) responsibilities have been expanded in recent years to resemble those of a regional CINC. The services organize, train, equip, and provide forces to CINCs, who conduct warfighting missions in AORs. The unified command plan (UCP) defines the location of AORs within which this authority is exercised. Today every CINC employs forces and has warfighting missions in AORs except for SPACECOM. Presidential authority, under UCP, does assign warfighting missions in the areas of space control and force application but does not define the AOR in which missions will be conducted. Delineating it would clarify relationships in terms warfighters understand, enabling more effective joint operations and seamlessness between air and space.

The current mission of SPACECOM includes both space and force application operations. Space control is defined in the draft version of Air Force Doctrine Directive 4, *Space Operations*, as:

all missions whose objective is to gain and hold control of the aerospace environment. This includes those terrestrial air, naval, and space operations that employ lethal and non-lethal means to disrupt an enemy's freedom of action in space. Counterspace operations, such as counterair, are divided into offensive and defensive space control missions. Antisatellite, missile defense, and attack operations against ground facilities to support offensive or defensive counterspace missions are included. . . .

Force application operations are also emerging as a principal component of space warfare. Future systems may provide the means to strike ground targets from space or attack space targets with terrestrial-based weapons.

Since assigned UCP warfighting responsibilities now include control and force application, it is time to revisit organizations for space operation. SPACECOM is responsible for a wide range of missions but UCP does not assign it an AOR where it will conduct these missions or counter the threat. A single point of contact for the AOR is also needed to develop and exercise command over security assistance programs and provide military representation to national and international organizations which support national security interests and warfighting requirements.

Why Now?

Many factors drive the need for designating space as an AOR. Interoperability shortfalls during the invasion of Grenada revealed the inability of the services to effectively communicate and share information. One outcome of the operation was the Goldwater Nichols Act of 1986 which mandated that only CINCs have authority to employ combat forces. We must extend the intent of this legislation to space operations, which cut across a range of functions and organizations. It is increasingly vital that a single warfighting CINC be responsible for integrating and synchronizing space activities. Improving integration centers on enhancing communication between components, especially for systems managed by one service but used by several.

Making space an AOR calls for recognizing that it bounds every terrestrial AOR assigned to geographic CINCs. Whenever CINCSPACE undertakes military activities in another AOR, those operations and their respective command relations will be coordinated with the appropriate CINC. Moreover, like his geographic counterparts, he will be assigned land, sea, and air components and be given warfighting missions such as space control and force application that contribute to battle space dominance. CINCSPACE will accomplish these activities through command over assigned space control, space support (including launch and on-orbit operations), and force enhancement forces, as well as elements that provide strategic ballistic missile defense.

Delineating space as an AOR will change doctrine and tactics, techniques, and procedures; clarify supported and supporting command relationships; and focus both training and exercises on such relationships. It will also force development of operations and contingency planning wherein CINCSPACE is the supported commander.

A clearly established AOR for space will help the Armed Forces to better understand and support national interests, conceptualize operations and develop strategy for this unique medium, and enhance existing UCP-assigned responsibilities.

This AOR is appropriate for the times. It recognizes an existing reality, aligns authority with responsibility, and establishes a single point of contact for detecting and countering threats to space assets. It also clarifies the responsibilities of civil, commercial, and international actors and moves SPACECOM from supporting from space to operating in space.

JFQ

force application operations are also emerging as a principal component of space warfare



With Arnold, Marshall, and King in France.

Naval Historical Center

Eisenhower

and the Origins of Unified Command

By DAVID JABLONSKY

President Dwight Eisenhower outlined his proposal for defense reorganization in 1958. Concerned about unity of command at the highest levels, he focused on unified commands, multi-service combatant structures which divide responsibilities among theaters around the world. Based on his experience in directing complex military operations, Eisenhower thought it unrealistic that the United States could institute a perfect system to address all its security requirements. However he insisted

on a command plan that remained true to the doctrine of unity, clarifying the authority of commanders in chief (CINCs) of unified commands over component commanders and by the President and Secretary of Defense over CINCs.

For over two decades, from his initial assignment in the War Department to his election as President, and as CINC of unified and combined commands, Chief of Staff of the Army, acting Chairman of the Joint Chiefs, or Commander in Chief of the Armed Forces, Eisenhower sustained a consistent approach. "Separate ground, sea, and air warfare is gone forever," he recorded in his 1958 proposal. "If ever again we should be involved in war, we will fight it . . . with all services, as one single concentrated effort."¹ Jointness, he argued, was the key to achieving unity.

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The Eisenhower Experience

The issue of unity of command over theater operations had its origins in the interwar years when the Joint Board of the Army and Navy prescribed that the fundamental method of interservice coordination was *mutual cooperation*, the one in effect when the Japanese attacked Pearl Harbor. After that disaster, the investigating committee noted, "The inherent and intolerable weaknesses of command by mutual cooperation were exposed."² As a result, shortly after Colonel Eisenhower arrived in the War Plans Division at the War Department in 1941, a general consensus existed on the need for unity in the field. Thus Eisenhower soon found himself involved in all aspects of the operations of unified commands.

By the end of World War II no senior officer on either side had more unified and combined command experience than Eisenhower. It is easy to forget today how unique his background was. Before that conflict no American had ever led a vast unified body consisting of armies, navies, and air forces; and none had ever directed an allied command. While unified and combined operations were conducted in other theaters, Eisenhower had the largest and most complex responsibilities.

Between 1945 and 1953 when he assumed the Presidency, Eisenhower served in a number of positions that maintained his focus on unity of command. He garnered experience in far more complicated and less malleable jobs than that of Supreme Commander, Allied Expeditionary Force. During his tenure as the Chief of Staff of the U.S. Army from December 1945 to February 1948, for instance, he engaged in many political-military conflicts as head of a service, an interested party who despite the prestige of being a chief was only one among equals in power. It was a period of frustration. Shortly after assuming this new assignment, he wrote to his son that the position "was a sorry place to light after having commanded a theater of war."³ Partway through his tenure he observed, "My own method worked well for me when I was a little czar in my own sector. I find it difficult to readjust to the demands of this city."⁴

Eisenhower's unease about his role as a chief of staff largely derived from seeking unity at all levels. In the field, despite agreement on the unified system in peacetime, the Army and Navy disagreed over various areas in the Pacific. Moreover, Eisenhower expanded the debate by arguing for a global structure to achieve "sound unified command arrangements at the earliest possible

time . . . [in] areas in the world where . . . the situation is at least as acute as in the Pacific."⁵

In September 1946 he sent a global unified command plan to the Joint Chiefs of Staff outlining their roles as well as those of unified and component commanders. By early December, an increasingly impatient Eisenhower kept his proposal alive through concessions to make his plan acceptable to the other services. This experience differed from those heady wartime days when as a staff officer he singlehandedly wrote the directive on command of a major Pacific theater of operations.

President Harry Truman approved the first unified command plan in December 1946. Importantly, it retained Eisenhower's proposals on the role of commanders in a global unified plan. Unified commands would consist of two or more components, each led by an officer authorized to communicate directly with service headquarters on administration, logistics, and training matters. Such commands would operate with joint staffs. Finally, the Joint Chiefs would exercise strategic direction as they had in time of war, assigning forces and stipulating missions. They would also follow the practice of designating one chief executive agent to oversee operations conducted by unified commands. All in all, the first plan was a tremendous accomplishment for Eisenhower and the result of conciliation, compromise, and an ability to overcome service parochialism.⁶

The debate over this plan reflected a question of defense unification that had been festering since early in World War II. Eisenhower's success made a compelling argument for unification at the highest levels with clear and accountable authority down to the unified commanders in the field. "I am convinced," he told Congress in November 1945, "that unless we have unity of direction in Washington through the years of peace that be ahead, we may enter another emergency, in a time to come, as we did in Pearl Harbor." He favored the proposal to unify the services under a single, cabinet-level head, a Secretary of National Defense and single Chief of Staff of the Armed Forces. The Navy, on the other hand, proposed maintaining a committee system to adjust activities of the services and integrate military policies with overall domestic and international requirements.

Both services outlined their proposals before the Senate in October 1945. The War Department plan as presented by General J. Lawton Collins was confusing, particularly the dual relationship of service chiefs as the hierarchical subordinates to the Chief of Staff of the Armed Forces but

no senior officer on either side had more unified and combined command experience than Eisenhower

equal to him as members of an advisory JCS. In addition, the command line on the chart which Collins drew showed theater commanders directly under the Chief of Staff of the Armed Forces, implying that he alone would direct operations conducted by CINCs. Collins took great pains to emphasize that a single chief of staff would not have a large staff and that service chiefs would be executive agents for the Joint Chiefs to carry out their directives with operational staffs of their own services. But before the same committee in the Senate some two weeks later, Eisenhower was drawn to the solid command line on the organizational chart. The Chief of Staff of the Armed Forces, he said, should be removed from the chain running from the Secretary to both the service chiefs and theater commanders and depicted in the advisory JCS organizational box as the main adviser to the civilian head. He was sure that was the original intent because, as he told the Senate Committee on Military Affairs, "by drawing him as he appears on the chart, it looks like he is the fabulous man on horseback that we are always talking about."

On December 19, 1945 President Truman delivered a unification message to Congress that clearly favored the single department proposed in the Collins Plan. Nevertheless, Secretary of the Navy James Forrestal was optimistic as the new year began because the new Army Chief of Staff and his counterpart, Admiral Chester Nimitz, had already begun negotiations that ap-

peared likely to settle what the Secretary called the unification lawsuit. "Eisenhower is a good practical Dutchman and so is Nimitz," Forrestal noted, "and between them I believe we will make progress."⁷ Another year would pass, however, before both chiefs and service secretaries arrived at a draft proposal for unification, and even then presidential action was needed on several intractable points. Eisenhower was committed throughout the process to overall unity of command under a civilian secretary. The compromise proposal emerged from Congress on July 26, 1947 as the National Security Act, which created a coordinated defense establishment not unlike that in the Navy model, an organization which Eisenhower characterized as "little more than a weak confederation of sovereign military units."⁸ The compromise was notable for the powers provided to the Secretary of Defense, who instead of presiding over a single executive branch department was to head a National Military Establishment consisting of three executive departments, one for each service, under cabinet level secretaries. The services, which now included the Air Force,

retained their essential autonomy as well as roles and missions that had emerged from the war. Importantly, the act made JCS a permanent organization served by a joint staff (limited to 100 officers) with equal numbers from each military department. The Joint Chiefs were given statutory authorization to continue their wartime roles to act as the principal military advisers to both the President and Secretary, prepare strategic plans and provide for the strategic direction of the Armed Forces, and "establish unified commands in strategic areas when such unified commands are in the interest of national security."

Despite his support for a compromise, Eisenhower had reservations over the new national security blueprint. The idea that JCS would continue as a collaborative coordinated body bothered him. As he told a congressional committee, "There is weakness in any council running a war. . . . In war you must have a decision." The point with committees was that "when you get three, you finally get none." One solution was a single chief of staff, a preference that he admitted might be too disruptive.

Meanwhile, Eisenhower argued for joint culture. "When you have kept services apart and you wait until men are fifty before they begin to meet and know much about each other, it is pretty difficult to develop the kind of team play that applies on one of the Knute Rockne football teams." A year later, Eisenhower returned to the theme in a farewell memorandum to Secretary Forrestal. "Someday it will be possible to give to selected officers of the several services 'combined arms' commissions that will transcend in prestige and in public regard anything they could hold of comparable rank in one of the individual services." The memo was also a reminder of the need for an evolutionary approach to the National Security Act. "There should be no hesitancy in using the 'trial and error' method so long as these proceed from minor innovation toward larger and more radical objectives in final result."⁹

Forrestal later asked Eisenhower to serve as his adviser and informal JCS Chairman. From December 1948 to July 1949, Eisenhower was President of Columbia University and Chairman during increasingly tense sessions with the chiefs. As he later recalled, "I was an umpire between disputing services; sometimes a hatchet man on what Fox Conner used to call fool schemes."¹⁰ Forrestal's aim was to use Eisenhower as a senior military adviser interacting with JCS to obtain an amendment to the National Security Act to provide for a permanent Chairman. "With Ike here for sixty days," he

Forrestal asked Eisenhower to serve as informal JCS Chairman during tense sessions with the chiefs



Accepting unconditional
surrender—May 7, 1945.

Naval Historical Center

wrote in his diary, “I think we can get the pattern set and prove its workability by pragmatic experience.”¹¹ But at first Eisenhower favored majority rule, whereby if the chiefs failed three times to reach unanimity the majority view would prevail. But after adjudicating bitter disputes, he changed his mind. “The JCS need a Chairman at the very least—and by that I mean a fourth member who can divorce himself from his service background.”¹²

By that time, Eisenhower was heavily involved in all aspects of the proposed changes to the law. The Chairman, he suggested, should take precedence over all others but be a nonvoting member to “allay suspicions that the man was going to be an arbitrary boss.”¹³ Nor should there be any fixed ceiling on the size of the Joint Staff.

On August 10, Truman signed the National Security Amendments of 1949, transforming the

National Military Establishment into the Department of Defense. These amendments, reflecting congressional modifications, remained basically concerned with two issues for which Eisenhower had provided input: increases in the formal authority of the Secretary and the scope of the authority of the Chairman. With regard to the Secretary, the qualifying term *general* was removed from the description of his “direction, authority, and control.” Equally important, the service secretaries lost significant power with their removal from the National Security Council and loss of cabinet status, although they retained the statutory obligation to separately administer military departments.

As for the recommendation that the Chairman head JCS and act as principal adviser to the President and Secretary, Congress agreed that he would preside as a nonvoting member. But the Joint Chiefs and not the Chairman would be the principal advisers and as such would be supported by a Joint Staff with a strength of 210. In addition, although the service secretaries and military chiefs would no longer deal directly with the President or budget director as Eisenhower recommended, they could, after informing the Secretary, take to Congress “any recommendations relating to the Department of Defense.”

Finally, the law prohibited the major combat functions of military departments from being transferred, reassigned, abolished, or consolidated, a provision that reflected continued sensitivity to service roles and missions, a point deliberately not addressed in detail in 1947. This matter had ostensibly been settled by the so-called Key West Agreement negotiated by Forrestal and the chiefs in April 1948, two months after Eisenhower had left as Army Chief of Staff. In fact, the accord reflected growing tension between service component commanders and unified commanders. The overwhelming interest of the chiefs at that conference was protecting service integrity in operational commands involving more than one service. Moreover, the agreement perpetuated the practice of designating one JCS member as executive agent for each unified command.

Compounding the Key West Agreement, the amendments not only forbade the Secretary to interfere with the combat functions of the forces being assigned to unified commands but increased the power of the chiefs as it diminished that of the service secretaries. The chiefs remained individually responsible to their secretaries. Collectively the Joint Chiefs were the principal military advisers of the Secretary of Defense; and because they were the only service departmental representatives given a statutory role in the departmental policy process, they became the spokesmen for their services as they had been during World War II.

Eisenhower saw further evidence of the trend to entrench the power of the chiefs as the first Supreme Allied Commander Europe in 1951. Much of his frustration focused on the Joint Chiefs, who complicated efforts to build a unified structure through rivalry with NATO, refusing to share intelligence, withholding information on atomic weapons, and resisting the transfer of operational control of American units to the Alliance.

The Presidency

Eisenhower's concern over unity of command virtually assured that defense reorganization would be an immediate priority when he became President in January 1953. It was still a

Eisenhower specifically addressed deficiencies of unified commands that limited the authority over component commands

question of organizational evolution, as he believed since agreeing to the 1947 compromise. Lessons had been learned through six years of trial by experience. Still Eisenhower had concerns about the lack of full centralized civilian control. Even as the status of the secretaries had declined in the wake of the 1949 act, during the Korean War JCS had returned to its dominant position of World War II, running combat operations and dealing directly with the President over U.N. directives. The new President believed he must reduce the role and political power of JCS, which had already begun to deadlock on reduced budgetary allocations as the Korean War ended.

In February 1953, the President established the Rockefeller Committee to develop specific recommendations on DOD reorganization. Its report continued the general tenor of Eisenhower's criticism, concluding that for the Joint Chiefs "to rise above the particular views of their respective services," they must be removed from command channels and serve only as a planning and advisory staff. But this solution posed a dilemma. Some believed that the only way the Joint Chiefs would transcend parochial interests was to end their service relationships and recommended a hierarchical general staff model that would terminate a dual hat role. Acting solely in a staff capacity for the Secretary, the chiefs would turn naturally to offering national advice. Others opposed a complete separation between operational and planning responsibilities. One compromise was strengthening the Chairman by reorienting the chiefs and their subordinate structures, which stressed a staff role for the Secretary and deemphasized the role of the chiefs as service representatives—but did not end it.

Eisenhower incorporated this compromise in a message forwarding his reorganization plan. JCS could not effectively plan joint matters while fulfilling responsibilities to service secretaries for efficiency and readiness. One way to further strategic planning and advice by overworked chiefs was to make the Chairman solely responsible for managing the Joint Staff. Moreover, assignment of officers to that staff should be subject to approval by the Chairman.

Eisenhower also wanted to clarify civilian authority. He told Congress that could be done without legislative changes, but rather by altering that part of the Key West Agreement involving executive agency over the unified commands. This practice had led to "considerable confusion and misunderstanding" over the relationship between JCS and the Secretary of Defense and between the service chiefs and their secretaries. As a result he intended to direct the Secretary to revise the Key West Agreement and designate a military department as executive agent for each command. "The channel of responsibility and authority to a commander . . . will unmistakably be from the President to the Secretary of Defense to the designated civilian secretary of a military department." In October 1953 the Secretary issued an executive order that revised the arrangement in accordance with the President's message to Congress.

However, organizational tension continued into Eisenhower's second term, fueled by rising costs coupled with fixed budgets. Moreover, the Soviet launch of Sputnik in October 1957 led to public debate over defense and alarming predictions by independent studies. The President formed several advisory groups on the subject, primarily to reinforce his ideas on unity of command. He also gave DOD reorganization a top priority in his State of the Union address on January 9, 1958.

Eisenhower believed that much remained to be done. War could no longer be waged under separate service efforts. But in the 1947 reorganization, "the lessons were lost, tradition won." In 1949 and 1953 the reforms led to increased centralization and authority on the part of the Secretary of Defense—necessary given the new technology and the Cold War requirements for readiness and deterrence. The process was slowed, however, by predictions of service unification and threats to institutions by a military leader serving as the principal military adviser to the civilian leader.

The theme of Eisenhower's next round of proposals was that unity of command must run from the highest level to theater commands. "The need for greater unity today is most acute at two points—in the Office of the Secretary of Defense and in the major operational commands responsible for actual combat. . . ." In terms of the

Discussing Indochina
with General Ely and
Admiral Radford, 1954.



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operational level, he specifically addressed the deficiencies of unified commands that limited the authority of CINCs over component commands, their influence on resources, and their ability to promote greater unity of effort in their commands. The solution was to build on the World War II experience and organize forces into truly unified commands as the cutting edge of the entire defense organization.

The key to reform in the field was to clarify command lines from the President to CINCs to avoid confusion of authority and diffusion of responsibility. The existing chain of command from the 1953 reorganization had expanded from the service secretaries to the point that “ultimately the chief of an individual service issues in the name of the Secretary of Defense, orders to a unified commander.” That the staff was taking over line responsibilities was self-evident because the role of JCS should be furnishing professional advice and staff assistance to the Secretary. Toward this end, he directed the Secretary to discontinue the use of military departments as executive agents for unified commands. “I consider

this chain of command cumbersome and unreliable in time of peace and not usable in time of war. . . . Clearly, secretaries of military departments and chiefs of individual services should be removed from the command channel.”

The result was an operational chain “running from the Commander in Chief and Secretary of Defense directly to unified commands.” At the same time, Eisenhower planned to maintain the support channel to CINCs through the military departments which, once relieved of responsibility for operations, could focus on administration, training, and logistics of service forces assigned to unified commands.

Eisenhower recognized that his proposals would require JCS to change. For that body to help the Secretary direct the unified commands, he asked Congress to raise or remove the statutory limit of 210 officers on the Joint Staff and authorize the Chairman to assign duties to that staff and appoint its director. He also proposed that the law

With Admiral Burke
aboard *USS Saratoga*,
1957.



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should emphasize that chiefs were authorized to delegate service responsibilities to their vice chiefs, making their JCS role a primary duty. Finally, the President wanted to replace the Joint Staff committee with a new system, creating an integrated operations division with joint directorates that made it easier for the Joint Staff (as it assumed the duties performed by service staffs) to work with similar structures in unified commands.

Hearings on Capitol Hill on modifying the legislation lasted from May to July. Eisenhower met with key leaders and contacted influential persons to marshal support in Congress. The result was a compromise bill that favored the administration position. It granted the President's request for authority concerning service combatant functions but also provided Congress 70 days to reject any transfer or abolition of such functions by simple majority. Eisenhower considered the latter provision "a small hole in the doughnut" because he was authorized to transfer major combatant functions without consulting Congress in an emergency.

There was a similar compromise with the authorization of the Chairman to vote in JCS and

manage the Joint Staff. He was authorized to select that staff (but only *in consultation* with JCS) and manage it (but only *on behalf* of the corporate body). Moreover, the chiefs retained the right to assign duties to the Joint Staff. And there was no way for the President to ignore what he called "legalized insubordination" in the law which authorized service secretaries and chiefs to go directly to Congress with recommendations "they might deem proper." Still, Eisenhower consoled himself with President Grant's reaction to similar circumstances: "I cannot make the comptroller general change his mind, but I can get a new comptroller general."¹⁴

Balanced against such compromises were the authorization for the Chairman to vote in JCS deliberations, for chiefs to delegate responsibilities to vice chiefs, and for the Joint Staff to expand to 400 officers. Moreover, in terms of the military departments, the term *separately administered* was replaced with the specification that each would be *separately organized* under its secretary with all services functioning under the "direction, authority, and control of the Secretary of Defense." More important for Eisenhower, the law passed in 1958 authorized him, acting through the Secretary of Defense and with the advice of JCS, to establish unified commands, assign their missions,

and determine their force structure. In turn, CINCs were responsible to the President and Secretary for implementing assigned missions. Accordingly, the law gave CINCs full operational command over assigned forces that could only be transferred with presidential approval. At the same time, the respective departments retained responsibility for the administration, training, and support of those component forces. Finally, under a separate executive action, the Secretary discontinued the practice of executive agents for unified commands. Henceforth the chain of command would run from the President through the Secretary of Defense to CINCs.

When he signed the Defense Reorganization Act on August 6, 1958, Eisenhower's positive reaction was understandable because it represented a major shift from the idea of coordination that triumphed in 1947 toward his vision of centralized civilian authority. That authority extended to CINCs in a direct operational line on one hand and in an administrative and support line through the military departments on the other. In theory, both lines were brought together for the Secretary within the JCS advisory system. The Chairman would lead the effort, thus approaching the status of the Chief of Staff of the Armed Forces outlined years earlier by Eisenhower in his interpretation of the Collins Plan. The chiefs would offer expertise on service capabilities to the joint arena while emerging from JCS deliberations with much broader perspectives on national defense in order to discharge their responsibilities. Moreover, the law granted sweeping authority to CINCs.

These changes, however, were deceptive. The military departments and services exercised residual de facto power out of proportion to their new statutory duties. The Office of the Secretary of Defense was still not organized for full integration of service capabilities into the forces required for the missions of unified commands. Nor could the Joint Chiefs, the principal staff contact for CINCs, make meaningful programmatic inputs. As a result, commanders planned missions with assets provided by the services through a process defended by the same services. That left unified commanders with limited influence over assigned forces, leaving the services and thus components with primary control over the structure and readiness of forces for which CINCs were responsible.

The strength and independence of component commands would in many ways ensure that the executive agent role would persist. These problems continued until passage of the Goldwater Nichols Act, a development that Eisenhower

would have understood after his 17-year involvement with unity of command on the national and theater levels. At the signing of the reorganization act in August 1958, he stated that "the law was just another step toward what the majority of experienced military men knew was necessary."¹⁵ **JFQ**

NOTES

¹ Alice C. Cole et al., editors, *The Department of Defense: Documents on Establishment and Organization, 1944–1978* (Washington: U.S. Department of Defense, Historical Office, 1978), p. 175.

² U.S. Congress, Joint Committee on the Investigation of the Pearl Harbor Attack, *Report to Congress* (Washington: Government Printing Office, 1946), p. 245.

³ Louis Galambos, editor, *The Papers of Dwight David Eisenhower, Chief of Staff* (Baltimore: The Johns Hopkins University Press, 1970), vol. 7, no. 552, p. 637.

⁴ *Ibid.*, vol. 8, no. 1465, p. 1683.

⁵ *Ibid.*, no. 1108, p. 1297. See also no. 1074, p. 1258.

⁶ *Ibid.*, p. 1299; Ronald H. Cole et al., *The History of the Unified Command Plan, 1946–1993* (Washington: Joint Chiefs of Staff, Joint History Office, 1995), p. 13.

⁷ Jeffery M. Dorwart, *Eberstadt and Forrestal: A National Security Partnership, 1909–1949* (College Station: Texas A&M University Press, 1991), p. 131.

⁸ Cole et al., *Documents*, p. 177.

⁹ Galambos, *Papers*, vol. 9, no. 2055, p. 2243. See also Dwight D. Eisenhower, *Final Report of the Chief of Staff United States Army* (Washington: Government Printing Office, 1948), p. 20.

¹⁰ Dwight D. Eisenhower, *At Ease: Stories I Tell to Friends* (Garden City, N.Y.: Doubleday, 1967), p. 352.

¹¹ Walter Millis, editor, *The Forrestal Diaries* (New York: The Viking Press, 1951), p. 540.

¹² Galambos, *Papers*, vol 10, no. 313, note 5, p. 399.

¹³ *Ibid.*, no. 327, p. 433 and no. 288, p. 358.

¹⁴ Dwight D. Eisenhower, *The White House Years, Waging Peace, 1956–1961* (Garden City, N.Y.: Doubleday, 1965), p. 251.

¹⁵ Cole et al., *Documents*, p. 253.

A NEW APPROACH



1st Combat Camera Squadron (Lemuel Casillas)

NATO

Standing Combined Joint Task Forces

By MICHAEL E. FIRLIE

Throughout its history the mission of the North Atlantic Treaty Organization (NATO) has been collective defense, but now the Alliance has new peacetime missions and is shifting toward collective security. With the addition of the Czech Republic, Hungary, and Poland to NATO, and the likely accession of Spain to the military command structure,

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these changes present a challenge. In response the Alliance is modifying its integrated military structure. Changes have been made to the configuration of the major NATO commands (MNCs). And more initiatives are on the way.

Combined joint task forces (CJTFs) are one new approach. They are very mobile, flexible headquarters that can conduct limited contingency operations outside Alliance borders. CJTFs are presently being exercised within the existing structure at major subordinate command (MSC)



NATO airborne early warning command and control aircraft.

4th Combat Camera Squadron (Joe Cupido)

level. Although this is a good first step, this concept should be advanced further by establishing standing commands at the principal subordinate command (PSC) or joint subregional command (JSRC) levels.

New Era, New Concepts

Fundamental changes in the European security landscape in the late 1980s and early 1990s made large standing armies seem unnecessary and too costly. This was especially true given that Western Europe needed financial capital to speed economic recovery and to assist former Soviet-bloc nations in rebuilding their economies and

forming democratic governments. Moreover, NATO discovered that to remain relevant in the new Europe and promote democratic values, it would have to take on

nontraditional military tasks such as peace operations and humanitarian assistance. Thus the need arose to reduce the number and size of Alliance headquarters and enable them to deal with these new missions. Similarly, the United States began to reduce its military presence, allowing and ultimately forcing the Europeans to take more responsibility for their own security.

In summit meetings between 1990 and 1996, NATO made a number of decisions to further speed change. A major step was to increase European representation on higher staffs and in senior billets. The Schaefer Plan, introduced in 1993, made cuts and changes in various senior positions. Many posts traditionally held by American flag officers were transferred to European counterparts. At the same time, NATO defense ministers

proposed the CJTF concept as a way to address new missions and reorganize the integrated military command structure.

The concept is an extension of broader efforts to enable Europeans to assume a more active role and take on a greater share of collective security. The fact that they are appearing to step up to the plate in the military arena is a natural progression of what has been occurring in the last decade. European cooperation and collective leadership is not new, as demonstrated by the euro currency, Chunnel, Euro-Corps, and elimination of border controls. The most significant decision relating to security affairs was the endorsement of the European Security and Defense Identity (ESDI) at the Madrid Summit in 1994. The defense initiative is essentially a European concept designed to allow member nations to voice their opinions on collective security and defense matters. It not only represents a recommitment to the importance of the Alliance but provides separate yet complimentary identities for European national defense policies. CJTF will help meet these objectives and provide a bridge to the Western European Union (WEU) as NATO transforms its command structure. The ESDI concept grew out of this agreement and a decision to develop WEU as a defense component of the European Union (EU). According to a NATO statement:

At the meeting of the North Atlantic Council in Berlin in June 1996, NATO foreign ministers referred to the building of a European Security and Defense Identity within NATO as an essential part of the adaptation of Alliance structures. Its purpose is to enable all European allies to make a more coherent and effective contribution to the missions and activities of the Alliance as an expression of their shared responsibilities and to reinforce the transatlantic partnership.

CJTF and ESDI were both obvious attempts to strengthen the European defense capability of the Alliance through WEU. At the Berlin Summit in 1996 the Alliance approved an agreement that cleared the path for CJTFs to be used as a vehicle for the growth of ESDI.

New Structures

NATO has already undergone major changes. Since 1991 overall forces have been reduced up to 40 percent with land forces down 25 percent, combat aircraft 30 percent, and U.S. strength cut by 66 percent from 300,000 to 100,000 in Europe. With respect to the integrated command structure (see figure 1), NATO first reduced the number of MNCs from three to two and Allied Command Europe (ACE) decreased MSCs from four to

CJTF and ESDI were both obvious attempts to strengthen the Alliance through WEU

Figure 1. Former Command Structure

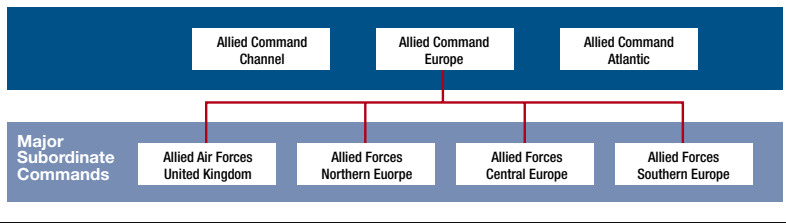


Figure 2. Current Command Structure

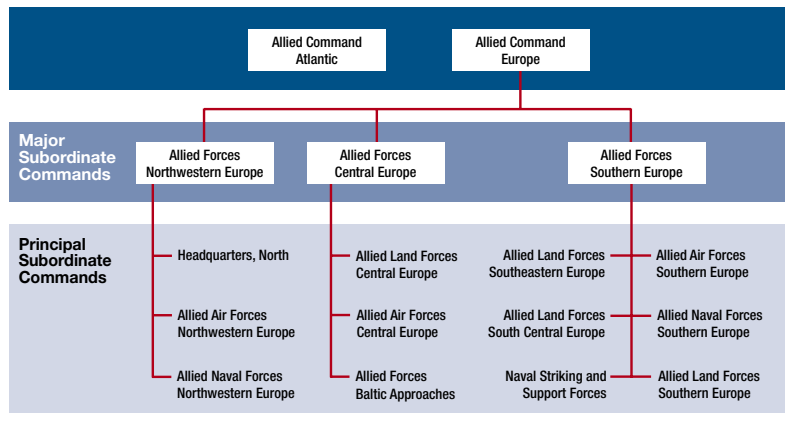
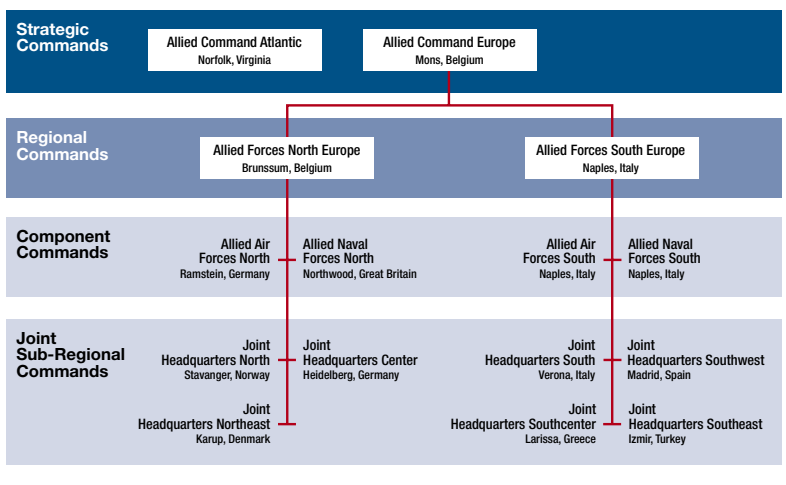


Figure 3. New Command Structure



three (figure 2 above). Under the new European command structure, ACE becomes a strategic command and MSCs will be redesignated as regional commands as shown in figure 3.

PSCs, specifically within ACE, are the key to the future structure of NATO. Their number will be reduced to eleven commands together with seven JSRCs and four component commands, all

subordinate to two regional commands (each with naval and air components). In order to meet political needs, JSRCs will be either established or relocated to ensure that each member nation has its share of headquarters. No JSRC will have an area of responsibility, but rather will have expertise in the region in which the headquarters is located (figure 3). Thus, when viewed in conjunction with the transformation of the command structure, CJTFs should prove better means of reorganizing JSRCs and serve as operational headquarters to address a range of missions in each region.

In implementing a task force framework, the Alliance should draw on lessons of the past. CJTFs have been successful for the United States and other nations and should be incorporated in NATO operations. In this manner the Allies can rebuild their organizations based on structures that have proven useful in myriad operations, and they can keep the United States involved as a subject matter expert. NATO should anticipate that CJTFs will be multiservice, multinational task forces capable of rapid deployment for limited duration peace operations conducted beyond the borders of the Alliance and under the control of NATO or WEU. As stated at the 1994 summit:

The CJTF initiative . . . is intended to provide NATO a powerful new organizational concept for responding to crises by rapid deployment of forces. This initiative is designed to: (1) satisfy the requirements of the NATO Strategic Concept for more flexible and mobile forces; (2) provide a vehicle for NATO participation in crisis management and peace support operations; (3) facilitate operations with non-NATO nations such as the [Partnership for Peace members]; and (4) permit the use of NATO infrastructure and forces to support the evolution of ESDI.

Although no official CJTF structure has been adopted, draft plans appear to call for some form of a nucleus element. When a full-scale task force headquarters is required for an operation, an appropriate nucleus would be selected from an existing NATO headquarters based on the nature and location of the mission. This core element would then be augmented with added staff modules to complete the capabilities of CJTF. As one NATO statement explained:

In the course of developing the CJTF concept, the Allies have agreed that for NATO applications the "nuclei" of CJTF headquarters will be established on a permanent basis within selected Alliance headquarters. The WEU could request the use of a CJTF headquarters for an operation under its command. In some circumstances WEU operations could also be conducted with CJTF headquarters formed around a nucleus from headquarters answerable to the WEU.



The Chairman with NATO chiefs of defense staff.

NATO

JSRCs are already joint by nature and combined by virtue of the fact they are NATO headquarters

New Challenges

NATO may find that a nuclei concept is insufficient. PSCs (soon to be JSRCs) are a better means of forming and organizing CJTFs, not just as nuclei of possible CJTFs, but as standing task forces—even better, standing combined joint commands. While headquarters are being relocated and restructured to incorporate Spain and new members, JSRCs should be organized as standing combined joint commands that can deploy entirely. They are already joint by nature and combined by virtue of the fact they are NATO headquarters.

The position of U.S. European Command with regard to the CJTF structure is that PSCs should serve as potential task force headquarters but only with the addition of RC modules. This is a viable option; but PSCs/JSRCs should be reorganized based on a functional CJTF structure.

Such commands should be structured functionally, with joint force land component, joint force maritime component, joint force air component, and joint special operations task force commanders, and any other component as required. A functionally structured command would do well in a combined environment because there are no real service components. No Army, Navy, and Air Force commander would be dual-hatted as a service and component commander, as can often happen with joint task forces. Removing dual-hatted positions eliminates conflicts of interest by commanders who seek to use their own forces. Additionally, logistical support would not be an issue because it is already provided through national channels, just as NATO currently operates. For example, the land forces commander could control units from any number of nations during an operation. But in peacetime, no land forces would actually belong to the NATO JSRC. Instead they would remain under national control.

By establishing a select few JSRCs as standing combined joint commands, NATO would possess multiple, deployable command and control elements that could routinely train together. They could also concentrate their training by region and mission, which coincides with the concept of headquarters no longer having areas of responsibility but serving as experts in specified sectors. Training daily as a combined joint staff would benefit JSRCs and the Alliance. It would also help in command and control of the first category of forces available to support task forces—immediate and rapid reaction forces.

Moreover, assigned personnel would know the command would deploy as a unit. There would be no anxiety over who is going and who is not as occurs with ad hoc and nuclei or module concepts. In a period of smaller militaries and more frequent deployments, such prior knowledge enhances unit cohesion and performance. In crisis the Alliance could turn to highly trained, highly motivated staffs who are subject matter experts within a specific region.

By restructuring and realigning headquarters, NATO can also reduce costs and manpower. In addition, the selection of the JSRC level as the appropriate command level for the CJTF concept advances both U.S. and ESDI positions that JSRCs must be nationally funded. This would allow Europeans to assume a greater share of the cost of their own security.

Forming standing combined joint commands, structured as CJTFs within a new integrated military command arrangement, has three significant advantages. First, it will provide the Alliance with more mobile and flexible headquarters capable of conducting limited contingency operations. Second, it will allow these commands to train together daily with the same personnel they would deploy with. Third, it adheres to the policy of eliminating areas of responsibility and allows JSRC level commands to become experts in specific regions.

JFQ

IFOR supplies arriving
at Tuzla air base.



DOD (Jeffrey Allen)

Ad Hoc Logistics in Bosnia

By WILLIAM N. FARMEN

Operations conceived and planned with little attention to functional logistics place extraordinary demands on the ad hoc headquarters created for that purpose. Such was the challenge to the commander for support (C-SPT) of a small organization established to design, plan, and implement NATO logistics for Operation Joint Endeavor. An examination of NATO multifunctional operational logistic planning serves as a timely reminder of the inherent weaknesses of ad hoc

organizations. Drawing on the C-SPT experience, this article documents a process that relied on spur of the moment planning as the primary way of providing initial multinational logistic support. The continued reliance on this practice is a formula for failure.

C-SPT wrestled with many complex issues as a logistics headquarters quickly took shape. A NATO ad hoc logistics organization must be skilled in both coordination and consensus building across the spectrum of theater logistics. It must accelerate its expansion when NATO deploys, as it did in Bosnia-Herzegovina to execute the Dayton peace agreement. This was a challenge given the lack of Alliance doctrine, policies, regulations, laws, or precedents for such an operation.

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Who's in Charge?

In Joint Endeavor it was critical that the ad hoc headquarters responsible for NATO theater logistics be responsible solely to the theater commander in chief. Theater logistic responsibilities, without full authority in theater, results in decision layering, dysfunctional prioritization, untimely deconfliction of logistic mission issues, and obfuscation of logistic responsibilities.

As headquarters leader responsible for executing the NATO theater logistic mission, C-SPT enjoyed the same access to the regional CINC as the other component and combatant commanders. This is significant because an ad hoc organization has no history, prestige, portfolio, track record, or customer credibility. It must, however, have real-time status among its customers. And in this case that status was embedded in the command structure.

Another formidable task was establishing and manning an ad hoc headquarters. The order to execute OPLAN 4105 in December 1995 led C-SPT to expand the planning staff from 40 to a fully operational headquarters of 400 in under 90 days. Requirements for people, equipment, funding, and facilities materialized seemingly from nowhere. The operation began from a standing start and with a clean sheet.

Personnel with the appropriate skills had to be found to bring order to chaos. Because each participating national military did things differently, it was crucial to account for and control all resources. Success depended on knowing what one had, what one needed, where it would come from, who should get it, and who would finance it.

Pay-As-You-Go

One early consideration was creating a budget and an office to administer it. The sudden creation of a logistics organization, limited funding, and justifying and accounting for spending on unclear requirements impacted budget development. The ability to demonstrate prudent practices in money management early in the operation was essential to obtaining additional resources.

From the outset an operating budget office was needed to provide fiscal and funding advice for the headquarters and meet logistic operating costs. To gain fiscal credibility it was necessary to support transparent budget development with full disclosure and fiscal accountability for common funding allocations and prudent spending.

A particular concern was the lack of up-front NATO common funding, which constrained the ability to establish common user contracts in support of the troop contributing nations. NATO common funding was extraordinarily restrictive, providing minimum support for the deployment of the NATO Implementation Force (IFOR) headquarters and C-SPT.

More immediately the paucity of up-front funds undermined NATO capabilities. It created financial inflexibility and prevented the development of commercial contractual arrangements for port operations, handling equipment, food supplies, and fuel distribution—even snow removal to assist deploying forces. It also hindered saving on the cost of lodging and messing. Common funding would have facilitated contracting for these services as a headquarters common expense, rather than each nation paying per diem to their personnel assigned to C-SPT. Instead of one all-encompassing contract, 400 personnel essentially contracted individually for simple services such as messing, billeting, and laundry.

A competent budget office, fully staffed and functioning early, could have provided more prudent money management. The office could then have coordinated the commitment of common funds with higher headquarters, facilitating financial transactions throughout the theater.

Staff Organization

The staff of C-SPT headquarters was organized around six traditional functions: personnel, intelligence, plans and operations, logistics, civil affairs, and communications. Unfortunately, not all of these staff elements were established during the predeployment phase of the operation.

Personnel. National policies for personnel rotation and rest and recreation as well as a need for qualified people were constant considerations. Other issues included hiring practices for local civilian personnel, identity cards, and performance evaluations. To energize this process personnel database needs were constructed from scratch. Requirements were captured in a NATO manning document entitled "Crisis Establishment" that listed needs by position, rank, and job description. Unfortunately, developing a manning document does not guarantee qualified people in the proper numbers. That will depend on individual nations and allocations made by Supreme Headquarters Allied Powers Europe (SHAPE).

Given these dynamics, the personnel directorate (C-1) was not initially staffed to deal with the magnitude of management issues. The staff was itself being organized while it simultaneously attempted to both develop a manning document and unit manning charts, and in-process augmentees. This is a generic problem for ad hoc

the lack of up-front NATO common funding constrained support of the troop contributing nations

Vehicles in Croatia awaiting shipment.



British equipment being unloaded from Russian transport.

55th Signal Company (Brian Gavin)

Atlantic Fleet Imaging Unit 193 (Mike Powell)

organizations, most pronounced in the personnel management area.

Early formation of a personnel directorate facilitates the entire personnel process. Among its first tasks should be the production and distribution of a manual to standardize augmentee procedures for participating nations before personnel are assigned. Standard procedures, known in advance, would reduce deployment costs, loss of individual time, personal inconvenience, and national disruptions. Addressing personnel matters during planning will increase the productivity and efficiency of the deployment and sustainment process.

Intelligence. Little attention was paid to an intelligence directorate (C-2) in the initial days of organization. The only intelligence planning support came from a single officer on loan from Allied Forces Central Europe who soon was withdrawn for another mission. The lack of concern for intelligence was a mistake and haunted the mission later on.

Upon deployment to Zagreb the mission quickly expanded to include command intelligence responsibilities for NATO operations in Croatia. Neither the people nor a game plan were available for intelligence responsibilities in the theater rear area. There was an urgent need to design and develop manning levels and to acquire the resources for an intelligence directorate. Finding conduits for intelligence with higher, lower, and adjacent headquarters was a priority. The intricacies of this task were immense and stressed the importance of prompt attention to the intelligence function in such operations.



5th Signal Company (Tracey L. Hall-Leahy)

**Task Force Pershin
at Slavonski Brod.**

Playing catch-up was a concern after deployment. The intelligence directorate was quickly upgraded from inactive to proactive—but only because participating nations provided C-SPT with their best and brightest personnel to correct the situation. As the mission matured and it came time to fine-tune the sustainment phase and address redeployment, C-SPT found that the understanding of counterespionage and counterintelligence operations was poor. These issues took on enormous importance in a theater context. Like so many aspects of developing an ad hoc headquarters in real time, dynamic conditions and attention to fundamental staff requirements should not be overlooked in favor of purely theater logistic concerns. Intelligence and logistics strengthen one another and thereby the total theater logistics plan.

Plans and Operations. Established initially as a planning cell comprised of six people under a French officer, the plans and operations directorate (C-3) originated all internal and subordinate taskings. It published both fragmentary and operations orders, monitored tactical and logistic operations, and maintained situation reports for the theater. Perhaps its most difficult task was coordinating theater rear area security. The directorate was organized into three sections: current operations (a three-shift, 24-hour, 7-day activity); future operations (to control battle staffs and conduct planning with other headquarters); and operations to administer task surveillance files and records and prepare command briefings. Although they are routine, these responsibilities

were complicated by the multinational, multilingual, multifunctional, joint, combined, and ad hoc nature of Alliance business. The action officers and NCOs assigned were junior in rank and had little NATO experience.

Members of the C-3 staff initially used the procedures of their respective national militaries. That along with language barriers meant that a disproportionate time was spent learning NATO procedures. It forced the directorate to adopt the Alliance way of doing things in real-time while satisfying operational requirements, an accomplishment that was a credit to the individuals that NATO assigned to C-SPT. However, there is no guarantee that similar qualified people will be available in the future given personnel cutbacks and increased operational tempos.

Logistics. A major shortfall during the early stages of organizing C-SPT headquarters was the failure to establish a logistics directorate (C-4). C-SPT was accountable for all NATO-funded material purchased for the theater. Personnel and equipment expanded rapidly during deployment. A preoccupation with IFOR logistic accountability nearly resulted in failure to manage and control organic equipment.

There was an immediate need for NATO funds to support the headquarters, from paper and pencils to automation, fleets of vehicles, and accommodations. Thus equipment purchases began with no established program to ensure accountability. Recognizing this shortfall, a directorate was quickly set up to collect data on all NATO-funded material acquired from the start of the operation. This meant initiating inventory control, customer account, and property book management, all hampered by the lack of approved procedures. Accordingly, permission was sought to utilize Allied Command Europe Directive 60-80, "Property Accounting and Control," for this purpose. However SHAPE only approved the request some two months after deployment. It was thanks to efforts by the original five members of the logistics directorate that C-SPT headquarters was able to overcome a slow start and gain full property accountability, something that should have been addressed much earlier. Future logistics directorates should be operational with sufficient time, personnel, and procedures to deploy with the advance party. Only then will they be able to facilitate theater supply for all NATO-funded organizations and ensure equipment accountability.

Civil Affairs. Establishment of a civil affairs directorate (C-5) was also overlooked during pre-deployment planning. While this directorate was initially envisioned as a small staff intended primarily to conduct liaison between the theater civil military command and C-SPT headquarters, this mission too soon expanded.



55th Signal Company (Brian Gavrin)

NATO convoy
embarking for home,
Joint Endeavor.

As a deployment expedient, NATO designated C-SPT as commander of forces in Croatia. Thus the headquarters served as the single point of contact between the Alliance and the Croatian government, the NATO negotiator for a status of forces agreement (SOFA), and the focal point for relations with the populace to promote civil cooperation and military aspects of the peace accords.

Civil-military operations would have been simplified if the C-5 staff had been expanded earlier and manned by generalists with geopolitical expertise on the former Yugoslavia. It could thus have developed a database prior to deployment

containing information on local government structure and functions and biographical details on senior civilian and military leaders.

Given the complexities of negotiations on deployment requirements, SOFA arrange-

ments, and command responsibilities, earlier attention in these critical areas would have been most useful. The ability to execute civil affairs responsibilities is a true force multiplier for multinational, ad hoc logistics headquarters.

Communications. Initial plans identified the need for a communications directorate (C-6), but SHAPE did not resource this staff element until just prior to deployment. Instead Headquarters, Allied Forces Central Command, provided its own organic communications assets, a costly contribution. Nevertheless, major shortcomings arose in communications planning because of a lack of qualified command information systems personnel. Nor was there the right balance of more senior officers experienced in NATO systems and junior personnel whose strong suit was familiarity with newly developed technology.

**the ability to execute civil
affairs responsibilities is
a force multiplier for
multinational headquarters**

The communications directorate was structured according to estimates of functional needs. This initially put too much emphasis on administrative requirements such as drivers and clerks and not enough on communications generalists and automation specialists. As the planning evolved, it was determined that administrative requirements could be accomplished as added duties.

A major concern for planners was the lack of Internet connectivity. In its absence, NATO planned to extend a secret communications network into theater for electronic transfer. This was not useful because it could not be connected to the Internet for security reasons. The question of communications security was never fully resolved. Action officers were a diverse group from several nations, not all NATO members. Not everyone possessed the same security clearances. Nevertheless, real-time operational decisions demanded real-time actions by available functional experts, and a command decision was made to accept the security risk.

There was also inadequate headquarters automation, exacerbated by delays in acquiring and distributing additional computer systems. For planning purposes one computer for every two staff officers is reasonable in an ad hoc logistics headquarters. Staff members found work-arounds like satellite telephone communications or laptop computers, but they were frequently expensive.

Communications directorates should initially be composed of 60 percent generalists and 40 percent automation experts. That ratio could be reversed as the communications system matures. Returning to a 60/40 staff mix may be appropriate as NATO considers endstate redeployment.

Legal Dimension

SHAPE did not provide for a legal affairs office until five days before C-SPT deployed. It was comprised of a single British officer, but it paid tremendous dividends almost immediately. This lawyer faced two challenges: the numerous logistics contract negotiations to support NATO forces throughout the theater and the technical agreement negotiations to implement the status of forces agreement between NATO and the Croatian government. This staff officer was augmented after deployment by an American legal officer and an administrative assistant.

The implementation phase of Joint Endeavor rested heavily on the legal interpretation of the Dayton accords, which were written generically. Every nuance of the implementation process was subject to scrutiny. All factions of the Federation—as well as the countries that splintered off from the original Yugoslavia—had their own interpretations.



Atlantic Fleet Imaging Unit 193 (Mike Powell)

Vehicles awaiting transport by rail to Bosnia.

The Rest of the Team

Three other elements of the staff require special note: public information, provost marshal, and headquarters commandant. Each was overlooked during initial planning.

The international media displayed a keen interest in C-SPT headquarters from the moment it arrived in Zagreb. Press conferences and interviews were a way of life. A new headquarters must maintain the appearance of organizational control under constant media scrutiny. Failure results in too much time fielding inquiries and too little satisfying customers. The public information office diligently presented C-SPT in the best light. The importance of information support should not be overstated in future ad hoc organizations. A good program, designed and manned early on, saves time and facilitates mission accomplishment.

Another problem was gaining high-level command support for a provost marshal office. Two reasons prevailed: the shortage of military police assets and justifying them for an ad hoc, rear area, nonhostile environment.

C-SPT had valid security needs. The headquarters personnel blended cultures, nationalities, and military traditions, and used mass transit, drove in local traffic, lived on the economy, and mixed with the population. Order and discipline were essential. Early C-SPT objectives included competent law enforcement and interaction with the local police. Provost marshal personnel must also maintain records and analyze law enforcement matters. While these goals were accomplished, their cost came out of hide by diverting assets from other headquarters elements.

Military police support requires early recognition and commitment from higher commands. The most important aspect of provost marshal support is direct interaction with host nation police forces and law enforcement authorities to ensure fair treatment of NATO forces. Leaving an ad hoc headquarters solely to the jurisdiction of local law enforcement does not work.

Finally, an ad hoc headquarters commandant is a critical position that must be filled before deployment. The responsibilities are immense. Billeting assignments, driver licenses, motor pool operations, mail room procedures, morale and welfare, and arms room control and access all affect morale. These areas require time in order to develop teamwork.

Issues regularly addressed by the commandant and senior noncommissioned officer—the dynamics of amalgamating so many cultural and national concerns—are enormously complex. The heart and soul of an organization, which is the harmonious cooperation of all its members, can be undermined without a competent headquarters. The first impression new assignees gain

C-SPT headquarters negotiated logistical contracts and technical agreements for NATO and most other nations that comprised IFOR. Its legal officer made every effort to render opinions on behalf of the Alliance, sometimes risking national rebuke. Any lawyer assigned to a multinational, ad hoc theater logistics headquarters should be free of national baggage and have an understanding of contract and international law.

A complex range of legal issues arose immediately upon deployment. It is imperative for commanders to have dependable nonpartisan advice. Moreover, legal counsel with administrative support must be resident in any headquarters during logistic planning. Sound legal expertise was tragically underestimated in planning and drastically oversubscribed during deployment and early sustainment. C-SPT navigated the Joint Endeavor legal waters thanks to competent legal counsel.

of an organization is their treatment by headquarters personnel.

Some Reflections

Lessons are bountiful from the first NATO out-of-sector experience. The magnitude of the challenge—from organizing a headquarters vision, to designing a theater deployment, sustainment, and initial redeployment package, to the execution of the plan—is mind boggling. NATO was hard at work on the situation in the former Yugoslavia starting in 1993, but there were many diversions before final implementation in 1995 to support the Dayton accords.

During rapid expansion and deployment, with real-time responsibilities and missions, there was no relief for C-SPT. Although the odds against successful orchestration were great, C-SPT enjoyed advantages. No doctrine or procedure existed. No one could predetermine right or wrong. There were no similar NATO operations for comparison. C-SPT had to learn through trial and error, but being able to address mistakes without outside interference was a rare opportunity.

The lines of communication from across Europe were short and robust. That made it easy to logistically adjust operations in progress. The theater was largely benign despite early concerns. Infrastructure and transportation were adequate, providing wiggle room, less congestion, and more options. One should not expect future theaters to be as forgiving.

C-SPT was initially successful primarily because of good men and women who had spent the better part of a year together coming to grips with multinational logistics. NATO would not go out-of-sector for the first time and fail on their watch; teamwork and personal pride were ingrained. Although these are valuable ingredients, future operations may not allow a year to work out details and develop cohesion. Experience is priceless but perishable.

Failure was not part of either our ethic or vocabulary. In the future, the been-there, done-that attitude might set in, reducing the sense of urgency. In addition, many of the participants will have been promoted, transferred, or retired from active duty. The reality is that NATO may

relearn this process indefinitely without ever establishing a permanent logistic capability and may face the possibility that it will always rely on ad hoc arrangements.

Multinational logistics, NATO, and C-SPT dodged the proverbial bullet in Joint Endeavor. Few understood the C-SPT role or how to measure its performance. The only line between success and failure early on was the thin facade of the unknown, behind which we labored diligently to solve issues never before confronted by NATO. Inside this corridor of opportunity, multinational logistics gained structure and status. It nurtured itself while executing the mission—not a formula on which to hang multinational logistics. A concern for future NATO operations is that success breeds higher expectations for next time. Unfortunately, without a standing logistics headquarters, a benign theater, and a dedication to institutionalizing the logistic lessons learned from Joint Endeavor, replicating C-SPT's success is questionable.

Logistics is a national responsibility. Nevertheless, national logistics have shortcomings in joint, combined, multinational, and alliance environments, especially when service and commodity contracts, ports, and facilities are managed and controlled by a theater logistics command. Theater logistic synergies appear to be optimized by centralized instead of national control of certain funds, services, contracts, and assets. In a multinational logistic operation, such a command can return huge dividends—to the advantage of all participants.

Much remains to be accomplished in the diverse and misunderstood world of multinational logistics. Any military scenario that is not dedicated to optimization and mutual synergy—that is, derived from proven or potential multinational logistic practices such as collective bargaining for outsourcing and contracting, common funding, centralized support services, and reduced manpower requirements—squanders precious resources.

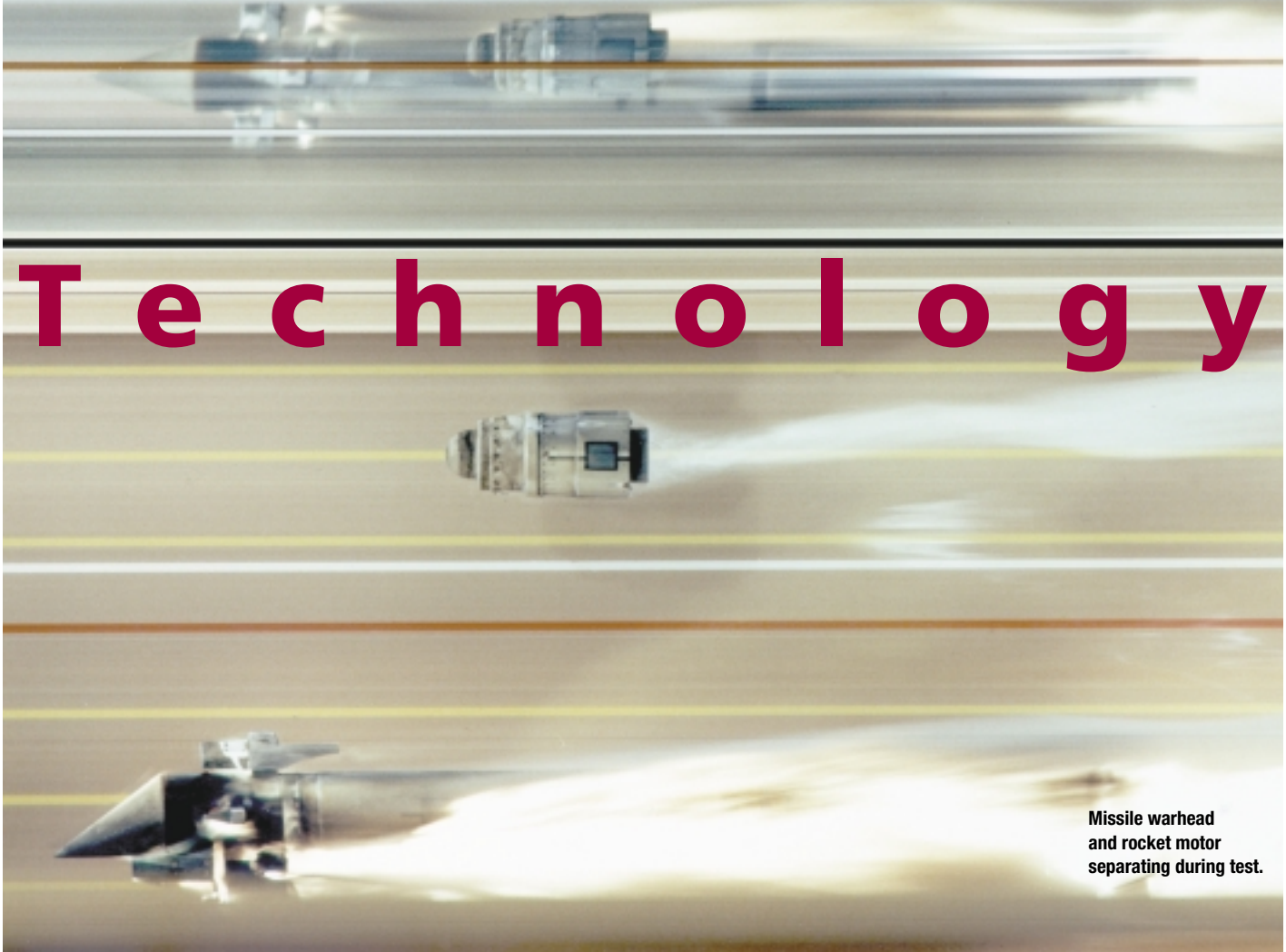
A NATO commitment to move away from ad hoc planning and operations would be a major step toward optimizing logistic support. Depending on piecemeal logistics is like relying on a bank account with no balance. No commitment can be made from the account without first making a deposit.

Someone once said that good logistics alone cannot win a war but that bad logistics can lose one. U.S. and NATO policies suggest a heavy future reliance on multinational logistics. A concerted effort must be made now to get it right. **JFQ**

the lines of communication from across Europe made it easy to logistically adjust operations in progress

Joint Vision 2010

Technology



Missile warhead and rocket motor separating during test.

U.S. Navy

By JOSEPH E. EASH III

As Under Secretary of Defense for Acquisition and Technology, Jacques Gansler, has stated, "The Joint Chiefs of Staff established goals for our acquisition workforce when, in their strategic statement on projected global defense requirements, *Joint Vision 2010*, they called for a revolution in military affairs." How those goals are achieved is

critical. The revolution in military affairs will largely depend on a revolution in business affairs. Acquisition must become faster and cheaper. Today the advanced concept technology demonstration (ACTD) program is facilitating these revolutions and helping change the defense establishment both on and off the battlefield.

Faster, Better, Cheaper

According to *JV 2010*, "We will need a responsive research, development, and acquisition process to incorporate new technology," which is

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DOD (Jason J. Bortz)



Unmanned aerial vehicle, Urban Warrior.



Unmanned surface vehicle, Riverine Insertion Operation.

2nd Marine Division (T.A. Pope)

easy to accept. The current process has taken up to 18 years to field a system. Training and doctrine refinement have taken even longer. However, *JV 2010* seeks to change how we fight in less than a decade and a half. It stresses information superiority, which means acquiring technologies that become obsolete in about 18 months.

The acquisition process must keep pace with change. “Accelerating rates of change will make

the ACTD program is significant because it focuses on the needs of the joint warfighter

the future more unpredictable and less stable,” states *JV 2010*. The acquisition process and ultimately our forces will have to meet a wider

range of threats at a quickening pace in an era of rapid technological change. Many dual-use technologies will be readily available in the commercial marketplace, and the advantage will go to the government that can most speedily translate them into military capabilities.

The acquisition process must be cheaper as well as faster. Procurement funding has fallen more than 70 percent in the last decade. The defense budget is likely to remain flat over the next few years, absent a major conflict. The *Report of the Quadrennial Defense Review* indicated what may

happen without any change: “Deterioration and obsolescence in equipment would erode long-term force structure and compromise the technological superiority of future forces. The concepts called for in *JV 2010* could not be realized.” It is clear that more money for modernization must go into the product and not the process.

A Vehicle for Innovation

To achieve acquisition reform, DOD initiated the ACTD program. As the *National Science and Technology Strategy* states, it is “the administration’s approach to harnessing innovation for military use rapidly and at reduced cost.” This program is intended to move technology out of the laboratory and into the hands of operators as fast as possible. To do this, concept demonstrations draw scientists and operators into a closer relationship. Since the demonstrations began in 1994, 46 ACTDs have been initiated. Each has been dedicated to examining the ability of a mature technology to meet an emerging need.

The ACTD program is significant first and foremost because it focuses on the needs of the joint warfighter. In the past, developers would

1st Combat Camera Squadron (Jim Varney/)

Multiple rocket launch system during exercise.

the ACTD program pursues demonstrations that support the operational concepts found in *JV 2010*

produce a system and turn it over to the user, either a single service or the joint community. Perhaps the user had supported the system development, maybe not. Under this program, however, the Office of the Deputy Under Secretary of Defense for Advanced Technology solicits unified commands, services, defense agencies, and industry for candidates at the start of each fiscal year. Preference is given to the highest priority joint need, which then drives ACTD.

One recent demonstration provides an example. The commander in chief of U.S. Forces Korea faced a formidable threat posed by the North Korean 240-mm multiple rocket launchers. Within 24 months, the precision/rapid counter-multiple rocket launch ACTD developed a concept and demonstrated technology to more rapidly counter the weapons. Basic innovations integrated surveillance, command and control, and weapons in a system of systems. This reduced sensor-to-shooter timelines by a factor of three and improved counterfire accuracy. Today that capability is operational on the Korean peninsula. A former commander of the 2^d Infantry Division depicted its success: "Soldiers have had a chance to play with it and influence the outcome. . . . This is all about the user being involved up front."

The ACTD program reduces acquisition risk. Involvement by joint warfighters throughout increases the likelihood of meeting operational requirements. It also ensures a more informed acquisition process should production of a system be necessary. Risk is mitigated by the fact that demonstrations do not develop technologies. Instead they focus on seeking mature or emerging technologies that can be demonstrated within two to four years. In addition, funds are used to integrate, evaluate, or sometimes forsake extant technologies. In the first 11 demonstrations, \$56 million was used to leverage \$2.4 billion in service and defense agency efforts. By investing in a fly-before-buy approach, ACTDs can prevent DOD from becoming locked into multi-billion dollar acquisition programs that may not achieve what warfighters want.

Risk reduction was apparent in the kinetic energy boost phase intercept ACTD, which sought to block ballistic missiles before submunitions and countermeasures could be deployed. Preliminary simulations determined that such an intercept was possible but not operationally feasible. It required an excessive number of aircraft. This assessment saved \$400 million in prototype development.

The ACTD program can shorten the acquisition process but is not a substitute for it. Fielding major systems such as ships and aircraft is still necessary. However, the process can be undertaken at milestone II (engineering and manufacturing development) rather than at milestone 0 (concept evaluation) if a demonstration satisfies a high priority. The medium altitude endurance unmanned aerial vehicle ACTD illustrates how acquisition is expedited. This demonstration enabled the development of the Predator unmanned autonomous vehicle from a concept to an operational system in just 30 months.

Operational Focus

The ACTD program pursues demonstrations that support the operational concepts found in *JV 2010*: dominant maneuver, precision engagement, full-dimensional protection, and focused logistics. Moreover, the Joint Requirements Oversight Council reviews and prioritizes candidates based on military need.

The program's greatest contribution lies in its emphasis on operational concepts. It is not enough to develop technology. Success depends on getting it to the field and fleet and using it wisely. This requires an operational concept, or a context in which technology will be used. As new technologies are integrated into operational concepts, the result can be a revolution in military affairs. When users define such operational concepts, the revolution can come from the trenches.

Experimental combat operation center, Urban Warrior '99.



Fleet Imaging Command, Pacific (Jon Gesch)

The operational concept is at the essence of each demonstration. By participating, joint warriors define the concept. If a joint warfighter has a critical operational need but no solution, the Office of the Deputy Under Secretary of Defense for Advanced Technology helps find one. It may match the need with a number of mature technologies submitted by the research and development community at the beginning of the fiscal year. It may also help the joint warfighter in developing an operational concept which integrates this technology.

Focusing on operational concepts also provides insights into the future. It offers joint warfighters a better understanding of new technology and its military potential. It also helps them explore the training and doctrine implications of new systems, which were often underestimated before. Examining an operational concept can also lead to new ideas, as the cruise missile defense ACTD exemplified. In 1996, an Aegis cruiser and Patriot battery in Hawaii detected, tracked, and engaged simulated cruise missiles beyond radar line of sight. The concept relied on radar located on a mountain in Kauai, which simulated an airborne system. Ever since then an elevated sensor has been central to the development of cruise missile defense.

ACTDs are currently determining the relevance of concepts associated with *JV 2010* and the revolution in military affairs. The following are examples.

- The recently completed synthetic theater of war ACTD supports *JV 2010* goals for enhanced modeling and simulations that are “interconnected globally—creating a near-real time interactive simulation superhighway between forces in every theater.” This advanced distributed simulation is transitioning to service simulations systems and providing many baseline capabilities for the next DOD generation of simulation, the joint simulation system. It may also be used to evaluate other ACTDs as well as for simulation-based acquisition.

- The advanced joint planning ACTD will enable higher level commanders to keep pace in “a more stressful, faster moving decision environment.” It provides enhanced command, control, communications, computers, and intelligence (C⁴I) software, which allows faster and collaborative planning throughout a theater. It can be tailored to the needs of an individual commander. Some software tools have enabled U.S. Atlantic Command to reduce planning time from seven days to several hours.

- The extending the littoral battlespace ACTD demonstrates joint tactical command, control, communications, computers, intelligence, surveillance, and reconnaissance (C⁴ISR) architecture. It will provide “improved targeting information directly to the most effective weapons system,” as *JV 2010* states, and is indicative of network-centric warfare. Moreover, network-centric warfare will help realize not only *JV 2010* but also the promise of a revolution in military affairs.

In October 1998, U.S. Atlantic Command (now known as U.S. Joint Forces Command) was designated as executive agent for joint warfighting experimentation. As the Chief of Staff of the U.S. Army noted about the significance of this initiative: “Joint experimentation and integration offers a mechanism to promote ideas, develop technique, and produce doctrine and systems for a joint force.” This joint experimentation will integrate ideas and systems into an overall concept for *JV 2010*. ACTDs will serve as the building blocks in that pursuit.

Secretary of Defense William Cohen remarked that we “must accelerate the transformation of U.S. military capabilities using savings generated by aggressive business reforms.” The ACTD program enables joint warfighters to transform the Armed Forces from the bottom up. In the near future it will help integrate these efforts into an overarching concept for *JV 2010*. It is providing the means for innovation at a time when it is needed faster and cheaper than ever before. **JFQ**

AWACS command post, Amalgam Warrior.



DOD (Robert Fleuger)

Delivering Joint Information Superiority

By CHARLES N. CARDINAL

Joint tactical C⁴ISR architecture—or the integration of command, control, communications, computers, intelligence surveillance, and reconnaissance assets—has long been a focus of defense visionaries. They picture systems linking assets, enabling the Armed Forces to detect and strike targets with blinding speed. Such architecture has broader implications. It can enable *Joint Vision 2010* and ultimately a revolution

in military affairs. An advanced concept technology demonstration (ACTD) by U.S. Pacific Command (PACOM) represents progress in realizing such visionary concepts.

The Promise of Technology

The Under Secretary of Defense for Acquisition and Technology testified before Congress that, “We must achieve an interoperable and integrated, secure, and smart C⁴ISR infrastructure that encompasses both strategic and tactical needs. Enhanced situation awareness and information assurance are . . . the backbone of the revolution in military affairs.” That potential was realized in part during the Persian Gulf War. U.S. forces

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Communications
vehicle coming
ashore, Kernel
Blitz.



Fleet Imaging Command, Pacific (Tyler A. Swartz)

could see targets faster with airborne warning and control and joint surveillance target attack systems. And they could hit them with greater precision. But operations are often far from perfect. The old problem remained—getting the right information to the right place at the right time.

A fully integrated C⁴ISR architecture is the solution. It can bind the services together with defense, intelligence, and other governmental agencies.

the defense establishment is being digitally linked by a global command and control system

It will synchronize the unique strengths of organizations and enable the “more seamless integration of service capabilities” sought by

JV 2010. This system of systems can link all sensors—strategic, theater, and tactical—within an enhanced command and control framework. Information will be fused with other friendly information and distributed as a common operational picture to users. An integrated architecture will essentially function as a nervous system with fire support acting as muscles.

Maximizing capabilities will largely come from improved performances on the joint tactical level. Just as the computer and Internet have empowered individuals, shared information from an integrated C⁴ISR architecture may do the same for small units. As *JV 2010* declares, “Improved systems integration . . . could empower a degree of independent maneuver, planning, and coordination at lower echelons.” It is likely to make small units more opportunistic, resulting in a joint force that self-synchronizes from the bottom up.

Technological Challenges

Despite great promise, creating a robust, fully integrated architecture remains a challenge. On the strategic level, the defense establishment is being digitally linked by a global command and control system, which is dedicated to providing an information network for warfighters. Much of this network will rely on a mature infrastructure. The challenge is what communicators in Bosnia have called the last mile—extending the network down to the tactical level and imposing a C⁴ISR architecture over an austere operating area.

The challenge increases when this architecture must extend over the likely point of entry by an expeditionary force—the littorals. Few types of terrain pose more difficulties. There is natural interference from landmasses, weather, and inversion layers as well as manmade clutter such as urban development and traffic. Moreover, C⁴ISR architecture must cover broader littoral expanses because of the increasing range of weapons systems and mobility platforms.

The architecture must also overcome a number of technical problems and the integration of multiple technologies. Artificial intelligence must fuse information. Object-oriented computing is needed to track targets and friendly forces. Moreover, there is also the question of how much data this architecture can carry—bandwidth. Further, new technologies must interface with older ones such as legacy systems that will

P-3 firing flares during Deliberate Guard.



1st Combat Camera Squadron (Diane S. Robinson)

be in service for years. Obsolescence must also be considered: the life of information technologies is measured in months.

Architecture for the 21st Century

PACOM is demonstrating a revolutionary architecture with extending the littoral battlespace ACTD. Its genesis was the Defense Science Board study in 1996, *Tactics and Technology for 21st Century Military Superiority*. The board recommended an enhanced C⁴ISR for joint expeditionary forces to provide improved theater-wide situation awareness, effective remote fires, and a vigorous interconnected infrastructure. Such an architecture could reduce equipment carried ashore, making forces more agile.

An expeditionary-style architecture is particularly interesting to PACOM. While the command's budget has declined, its responsibilities have not. It still encompasses 100 million square miles and 60 percent of the world population. From Indonesia to the Korean peninsula, the possibility of crisis is ever present. "Teamwork is key," as the Commander in Chief, U.S. Pacific Command, has put it. "Our need to integrate capabilities will place a premium on joint/combined interoperability." This integration depends on an integrated network.

The ACTD C⁴ISR architecture depends extensively on commercial technologies, which are rapidly outpacing defense innovations. To exploit new technology, the program office, under the management of the Office of Naval Research and Marine Corps Combat Development Command,

departed from traditional government specification-based acquisition. Instead it conducted an open competition for the best ideas and technologies from industry. After reviewing four proposals the program manager made a selection in February 1998.

The network is designed to last for a decade while accommodating technological changes. Essentially it is a plug-and-play structure, which is compliant with industrial and joint standards. As one component becomes obsolete another can be inserted. This architecture will overlay current communications systems for littoral operations, such as the single-channel ground and air radio system and the enhanced position location reporting system.

Because of the likelihood of joint expeditionary operations in the littorals, the architecture will be sea-based. The critical node is the command center aboard the command ship, consisting of cells for command, combat information, planning and shaping, and engagement coordination. This center integrates command and fire support functions. Fire support systems receive real-time sensor information, enabling shooters to rapidly engage targets. This will allow commanders to direct a range of joint weapons systems and mass fires against specific targets. The engagement coordination cell directs naval surface fire support using the land attack warfare system. The cell also deconflicts and visualizes air operations using a



Monitoring humanitarian relief with experimental vehicle, Urban Warrior.

DOD (Edward Aspera, Jr.)

dynamic airspace management system. Fires ashore will be directed by the advanced field artillery tactical decision system.

In addition, a central information processor aboard the command ship provides a database containing information on terrain, weather, sensors, units, weapons, readiness, and intelligence. It will eventually be linked to databases outside the theater.

This advanced concept technology demonstration also employs an airborne node, such as a P-3 or unmanned aerial vehicle, to enable the

information will be fused into a common situational picture that can be distributed to tactical displays

establishment of a wireless wide-area network over the littoral battlespace, which will allow the architecture to overcome line of sight communications problems. The network will carry high rates of data and

voice transmissions and link all computer nodes on land, at sea, or in the air. Small units and sensors ashore will operate on local area networks, connected to the overall network, that will also tie into theater and strategic sensors.

Importantly this architecture is a tactical network. Users will pull information by accessing messages or making queries. Information will be fused into a common situational picture that can be distributed to tactical displays which allow the warfighter to sort and retrieve information. They can portray data on any object in the battlespace. Warfighters will also be able to focus on specific areas using drill-down technologies.

A high degree of automation helps network users. Warfighters must see the big picture and cannot afford to be fixed on monitors. Technologies such as human-computer interface will allow verbal interaction. For instance, warfighters may direct "locate all ports in the operating area" and

the computers will respond audibly. Object-centric computing will track ships or other contacts. Intelligent agents will alert users to previously requested information like the launch of an enemy anti-ship missile.

If systems are degraded the architecture will have an automatic fallback capability which consists of alternative networks. Satellites will provide wideband communications to all ships and command nodes ashore. Commercial satellite systems will furnish narrowband communications between operations centers and warfighters. Should it be necessary to replace the overall system, an Internet-in-the-sky will be used for wideband communications while land mobile radios provide narrowband.

Visionary Capabilities

The demonstration of the architecture involves two phases. First, it evaluates which subsystems work and which do not. The overall architecture was initially tested in April 1999 during Kernel Blitz '99. The joint task force for this exercise was led by the commanding general, I Marine Expeditionary Force. The land forces included a special purpose Marine air-ground task force and a joint special operations task force made up of Army and Air Force units. The joint task force seabase consisted of *USS Bonhomme Richard*, *USS John Paul Jones*, and *USS Coronado*. The demonstration was concurrent with the Fleet Battle Experiment executed by the Maritime Battle Center and the Urban Warrior Advanced Warfighting Experiment conducted by the Marine Corps Warfighting Lab.

The second phase of this demonstration will examine the ability of the architecture to plug-and-play new technologies. It will include a series of integrated feasibility exercises and culminate in another major system demonstration in April 2001. It will also be linked to the Capable Warrior Advanced Warfighting Experiment conducted by the Marine Corps Warfighting Lab.

Visions of the future are pinned on a fully integrated C⁴ISR architecture that will do more with less by generating increasingly cohesive joint forces that maximize the strengths of the Armed Forces and defense agencies. All this makes upcoming demonstrations in the Pacific important. As the former Commander in Chief, U.S. Pacific Command, Admiral Joseph Prueher, has noted, this advanced concept technology demonstration "is one of the few efforts integrating a myriad of emerging technologies into a coherent concept of joint expeditionary warfighting and truly leveraging information superiority."

JFQ

FALSE- FAILED Innovation

By GREGORY C. WILMOTH



Blimp arriving at Bolling Field.

U.S. Air Force History Office

History is littered with technologies that failed as innovations. Others, such as gliders and airships, were like desert flowers. They flourished briefly and withered. Then there is the false-failed innovation—a technology that is examined and discarded but that gets a second chance under other conditions and succeeds. Perhaps the best example is inflight refueling, an idea pioneered in the 1920s to extend the range of wood and fabric biplanes. The Army Air Corps set the technique aside in the 1930s as aircraft range and endurance improved. Rediscovered in the late 1940s when the United

States tried to build an intercontinental jet bomber, the technology proved invaluable. Air refueling became a capability that quickly spread throughout the services and to other countries.

This article looks at airships, gliders, and air refueling to determine why some promising innovations are permanently discarded while others are profitably resurrected.

Lighter than Air

At the turn of the century, rigid airships emerged as a technology in search of a mission. First flown by Count von Zeppelin in 1900, three years before the Wright brothers airplane, lighter than air flight captured public imagination. In Germany zeppelins became a national passion akin to the space race in America during the 1960s.

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Many concluded airships might have military uses. H.G. Wells wrote *The War in the Air* in 1907, which featured German *drakenships* that attacked the U.S. Navy and pulverized cities from the sky.

By 1912 airships appeared to be an innovation whose time had come. Germany operated a regularly scheduled airship service. Capable of carrying dozens of passengers as well as hundreds of tons of cargo, they proved more useful than airplanes, fragile toys of the rich which could carry two people for perhaps an hour.

World War I shattered many illusions, including the relative usefulness of airships versus airplanes. In August 1914 both the German army and navy employed lighter than air military craft. Although the army used them for reconnaissance and close air support, by October 1914 only two out of the original inventory of seven remained

operational.¹ The navy had limited success with airships used for fleet scouting. Maritime scouts were the result of a strategic blunder. Expecting a close-in blockade by Britain, Germany built few cruisers.

airships proved to be cheaper to build than cruisers and served as a substitute for coastal reconnaissance

When mines and submarines drove the Royal Navy to establish a distant blockade, the German fleet suddenly found that it needed more light cruisers for littoral operations, but none were available. Airships proved to be cheaper and quicker to build than cruisers and served as a substitute for coastal reconnaissance.

Some visionaries saw another use for airships: strategic bombing. In 1915 Peter Strasser, the head of Germany's naval airship division, got permission from his superiors to mount strategic raids on England. Kaiser Wilhelm II, however, was worried about bombing London and possibly injuring members of the royal family which included his cousin, George V. As a result, air strikes were limited to military installations. Because the technology of the day was not terribly accurate, in a pattern which foreshadowed American bombing of North Vietnam, the list of available targets expanded cautiously, allowing the British time to develop a formidable air defense system.²

Even when the German army joined the navy bombing campaign its operations remained ineffective. Bombing at night for protection made it hard to navigate and nearly impossible to hit anything with accuracy. As British defenses improved, the only real countermeasure available to airships was to fly at higher altitudes, which further eroded accuracy and navigation. In addition, because German airships used flammable hydrogen as a lift gas they remained highly vulnerable to air defense fires. As losses mounted, the German army withdrew its airships and switched to



Blimp school, Pensacola.

Naval Historical Center

Gotha and later *Giant* bombers in early 1917 while the navy persisted to the end in flying airship raids.

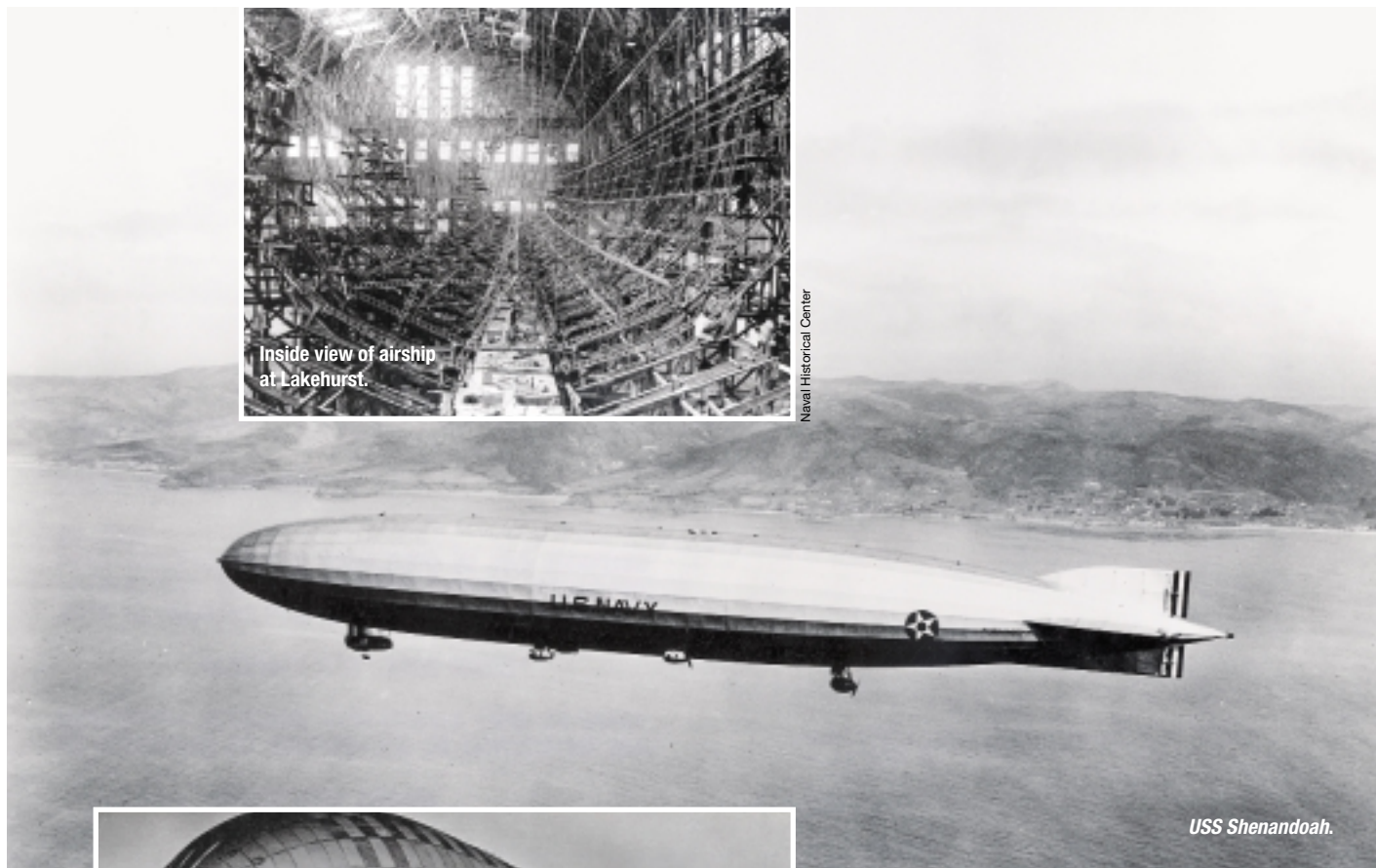
Moreover, in 1917 the army briefly used a lighter than air craft on a new mission: strategic airlift in support of General von Lettow-Vorbeck, who waged guerilla warfare against British forces that invaded German East Africa. An airship launched from Bulgaria carried food, ammunition, and medical provisions on a one-way mission to resupply the German forces. Although the airship successfully crossed the Mediterranean and Sahara, before Lettow-Vorbeck could be resupplied his forces withdrew into Portuguese East Africa. Near Khartoum in the Sudan the airship was recalled by radio and flew back to Bulgaria. As a result, another potential use for the technology proved to be disappointing and it was soon discarded.³

Following World War I the U.S. Navy considered using airships for fleet scouting, in part because of the development of cheap helium in commercial quantities. The reduced lift of helium was thought to be offset by the increased safety of non-flammable gas. The Navy commissioned its first postwar airship from the Zeppelin works and then quickly accelerated the construction of subsequent airships in the United States. As the capabilities advanced naval airmen envisioned another possible mission for lighter than air



Inside view of airship at Lakehurst.

Naval Historical Center



USS Shenandoah.

Naval Historical Center



British dirigible.

Naval Historical Center

technology, the airborne aircraft carrier. *USS Akron* and *USS Macon* were able to launch and retrieve a small parasite fighter, the F-9C Sparrowhawk. Unfortunately, both airships met disastrous ends in severe weather.⁴

Meanwhile in Europe, new airship construction began in support of long-range commercial passenger transportation with varying results. Germany built and flew the *Graf Zeppelin* around the world while Britain built, flew, and lost the

R-101, effectively ending its commercial efforts. The Germans then built an even larger airship, the *Hindenburg*. After a successful season on the North Atlantic run, it went up in flames over Lakehurst, New Jersey, in 1937. That disaster was a turning point. The *Graf Zeppelin* was removed from commercial service. While German airships were successful on the Atlantic crossing, airship disasters and the appearance of fast, long-range American flying boats such as the Boeing Clipper meant their days were numbered.

Meanwhile, the Lighter than Air Bureau of the Navy Department was planning a true flying aircraft carrier. Dubbed the ZRCV, this nine million cubic foot ship was designed to carry nine Douglas-Northrop BT-1 dive bombers. But it was not to be. President Franklin Roosevelt limited the size of new airships. This decision proved to be the death of lighter than air carriers. While the weight of any aircraft a ship might carry increased with improved technology, the lifting weight of helium remained constant. Because of restrictions in size the flying aircraft carrier never became anything more than a blueprint.

C-47 snatching glider at Asansol, India.



Glider landing in Lubbock, Texas.

U.S. Air Force History Office

U.S. Air Force History Office

Germany built one last ship, the *Graf Zeppelin II*, a sister to the *Hindenburg*. Its designers hoped America would relent and allow the export of helium. When relations with the United States worsened, any possibility of reviving commercial airships vanished. In the summer of 1939, however, Germany discovered another mission for the technology, electronic warfare. Flying along the North Sea coast of England, the airship searched for emissions from British radar home chain stations. But its receivers were tuned to the wrong frequency and found nothing. The project was abandoned.

Despite the possibility of varied missions, the leading characteristics of airships—heavy lift and range—were not recognized early enough. They proved most successful at strategic airlift and long-range passenger transport. By the time they came into their own with these missions, airplanes were emerging as superior.

The Glider

Although gliders preceded airplanes in development, their obvious disadvantages left them behind as airplane technology advanced. But when the Versailles Treaty prohibited Germany from having an air force after World War I, nonpowered flight emerged as a substitute. Looking forward to

a day when the ban would be lifted, Germany fostered nominally civilian gliding clubs which developed a cadre of glider pilots who could make the transition to powered aircraft.

By World War II Germany, with a pool of pilots skilled in nonpowered flight, integrated gliders into its airborne forces, but military doctrine generally restricted gliders to commando raids. A notable exception was the invasion of Crete in 1941, when heavy losses suffered by German airborne formations did nothing to encourage more extensive use of gliders.⁵

On the other hand, the dramatic success of glider troops in operations such as the seizure of Eben Emael in Belgium caught the attention of the Allies. British plans for glider use resembled those of Germany while the Americans focused on mass airborne troop transport and resupply. The U.S. Army employed gliders for the invasion of Sicily, Normandy, and southern France. In addition, they were used in Operation Market Garden, the strike into Holland in September 1944, in Burma in 1944, and Operation Varsity, and the attack over the Rhine in March 1945.

Although American glider operations were generally successful, there were problems. The lack of preexisting glider forces resulted in a rush to produce gliders and train pilots. Predictably, this compromised the quality of both. Moreover,

aircraft made gliders obsolete for delivering troops and supplies, as helicopters did for commando raids

the craft faced major tactical limitations. Gliders under tow were highly vulnerable to interceptors and ground fire. Adverse weather interfered with flight operations. Because they were rarely reusable, gliders were an expensive expendable item. Also there was the problem of what to do with the pilots on reaching the target area. Should they be used as infantry or returned to base? The British trained their pilots in infantry tactics and expected them to fight on the ground. Americans never satisfactorily resolved the question.

U.S. gliders were transferred to the Air Force when it became a separate service following World War II. There was interest in developing larger and more modern gliders, but the Air Force made little headway. By 1950 air assault aircraft had replaced gliders. C-123s and other aircraft made gliders obsolete for delivering troops and supplies, as helicopters did for commando raids. Gliders disappeared from the inventory after a life span of only a decade.

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Inflight Refueling

The first experiments with refueling in the air took place in the United States, Great Britain, and France in the early 1920s. It was a period when the emphasis was on setting aviation records rather than using innovations to solve practical problems. For example, on New Year's Day 1929 a Ford C-2A trimotor named *Question Mark* began a dramatic demonstration of inflight refueling on a racetrack course between Van Nuys and San Diego. Two Douglas C-1 single-engine biplanes acted as tankers and refueled the trimotor through hoses 43 times. *Question Mark* finally landed on January 7 after over 150 hours in the air.⁶ This experiment encouraged others to break the record for inflight refueling. In 1935 it rose to 27 days, a record that has never been broken.

Such records overshadowed the role of inflight refueling as a range extender. Experiments continued, but unpredictable weather conditions and other factors hindered success. In the 1930s technology made inflight refueling less relevant for the range of aircraft. The transition from wood and fabric biplanes to all-metal monoplanes led to advances in speed and range. Manufacturers in America began building flying boats that carried passengers nonstop across the Atlantic. Inflight refueling was more or less forgotten in the United States.

British interest in aerial refueling persisted. Designers had difficulty developing a flying boat that could cross the Atlantic without refueling.

Alan Cobham established Flight Refueling Limited and introduced a new refueling system. He conducted experiments with British Imperial Airways and was planning a joint venture with Air France when war intervened.

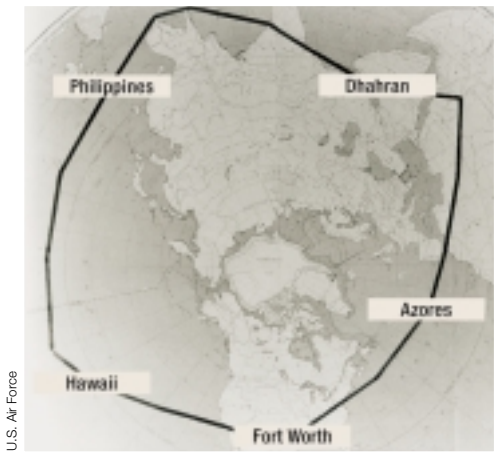
World War II offered opportunities to exploit inflight refueling, but none came to fruition. The most regrettable failing was not closing the mid-Atlantic gap in the battle against German submarines. Cobham approached the Air Ministry about using inflight refueling for the Short S-25 Sunderland maritime reconnaissance bomber. Increasing the reach of this four-engine flying boat would have covered the gap with existing aircraft and tipped the scales in favor of the convoys. The government declined to act and the gap was not closed until mid-1943 by unrefueled B-24 Liberators.

After the war Britain returned to efforts to perfect inflight refueling for commercial aviation. Some technical obstacles were gradually overcome with a cumbersome albeit effective looped hose system, but new American airliners such as the Lockheed Constellation could cross the Atlantic without refueling. Aerial replenishment seemed headed for oblivion.

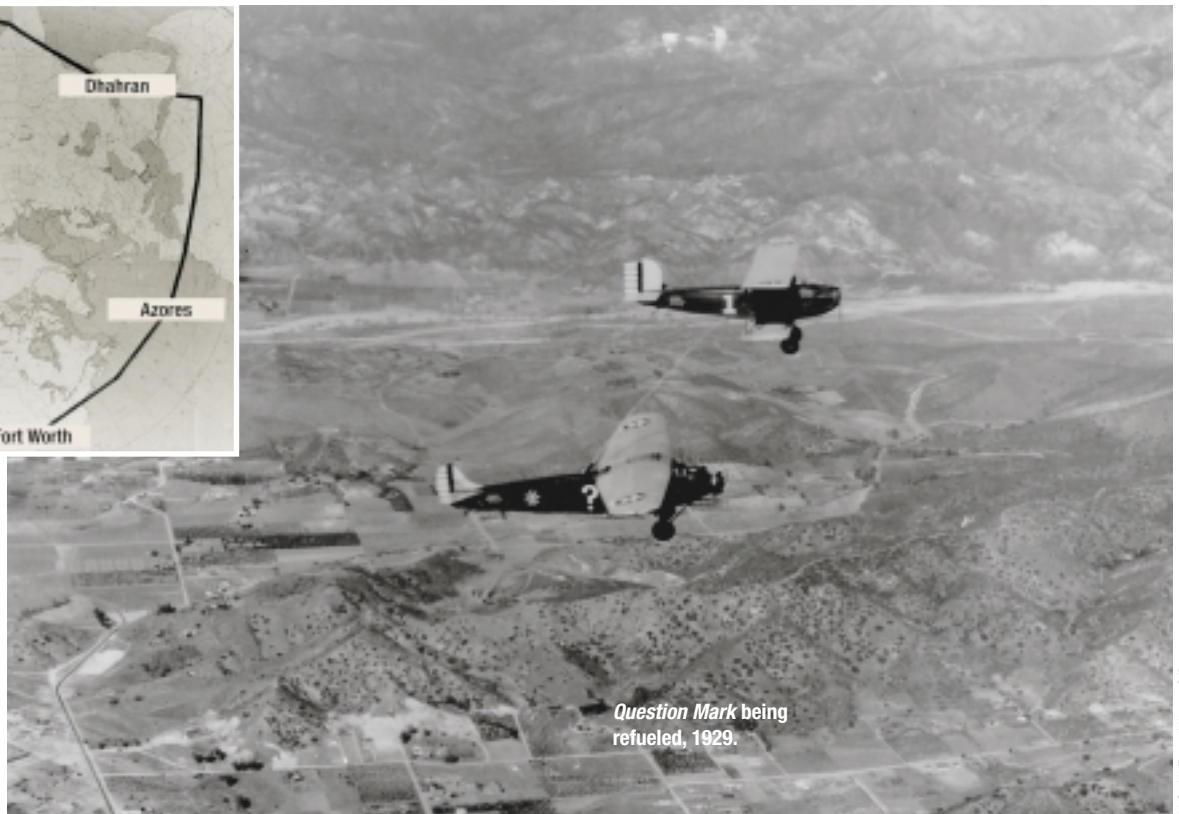
In the late 1940s, however, inflight refueling got a second chance. As the Cold War began the Air Force lacked bombers that could hit targets deep inside Soviet territory. Its primary bomber was the B-29 Superfortress. An upgraded version, the B-50, was also inadequate for the mission. The only bomber able to penetrate far into the Soviet Union was the B-36. Although its range was an advantage, this six-engined behemoth was slow and vulnerable. Design work on what would become the B-52 was begun, but aeronautical engineers quickly ran into a problem. To get the necessary range they had to increase the fuel capacity; but that made the aircraft bigger and further increased fuel requirements.

A committee of the Air Force Aircraft and Weapons Board developed a list of needs which included reduced range and inflight refueling. A team headed by Jimmy Doolittle went to England to meet with Alan Cobham. They returned with equipment and contracts, and work soon started on converting B-29s into KB-29 tankers. In February 1949, with KB-29s providing four inflight fuelings, a B-50 named *Lucky Lady II* took off from Carswell Air Force Base in Texas and flew around the world nonstop in 94 hours.

The Air Force soon replaced the cumbersome Cobham looped hose system with a Boeing telescoping boom. KC-97s supplanted KB-29s. In turn the KC-135 Stratotanker, a Boeing 707 derivative specifically designed for operating with B-52s, replaced the KC-97. In the meantime, the British developed the probe and drogue system.



Round-the-world route of *Lucky Lady*.



U.S. Air Force

U.S. Air Force History Office

Both the boom and the probe and drogue systems had advantages. The boom has been most popular with the Air Force, but the probe and drogue system has often been adopted by the other services as well as foreign air forces.

Inflight refueling eventually spread beyond strategic bombers. The conflicts in Korea and Vietnam demonstrated the value in air fueling for tactical aircraft. During the Vietnam War tankers not only extended tactical strike aircraft range but often saved damaged aircraft returning to base by replenishing fuel lost through leaking tanks.

What was once a stunt and then a niche technology blossomed into a widespread innovation. Today, inflight refueling is integral to military aviation in the United States.

Myth of Technology Trees

Enthusiasts of computer games such as Civilization are familiar with the technology tree. Players seek revolutionary technologies to acquire new types of military units, city improvements, and other advantages. However, they must follow a tree that identifies mandatory technological prerequisites. For example, a player seeking *gunpowder* must first acquire *invention* and *iron working*. *Invention*, in turn, depends on *engineering* and *literacy*. Each advance is a consequence of one

technology and prerequisite for another. Such linear advances constitute a technology tree.

But technology trees are myths. New developments do not follow predetermined paths. The evolutionary steps taken to obtain a technology do not constitute the only approach to it. Nor is the most prevalent form of development necessarily even the most efficient.

Technological choices are often made by accident or for nontechnological reasons. Today most people use videos in a VHS format rather than Beta, which is generally regarded as superior. Business decisions and economic costs gave VHS an early lead that Beta could not overcome as the investment in VHS tapes and machines increased. Moreover, typewriters and computers utilize the *qwerty* keyboard, named after the line of six letters on the upper left hand portion of the board. This arrangement was designed to slow typing to prevent keys from jamming. The more efficient Dvorak keyboard has been around since the 1930s, but familiarity with the *qwerty* keyboard has created inertia against change.⁷

Likewise the automobile, powered by the internal combustion engine, is the dominant form of personal transportation. But in 1914 steam and electricity were serious contenders. Engineers still claim steam engines offer the most efficient propulsion for cars. Steam lost because accidents,

to achieve an innovation, an enabling technology must be linked to doctrine and organizations

engineering choices, market decisions, and economic factors combined to give internal combustion market domination by 1930. The size of the automobile industry and its supporting infrastructure became a barrier to change. Building a steam powered car was not enough. One needed networks of dealers, parts suppliers, and service stations. Once again, existing investments as sunk costs generated inertia to change. Robert Pool calls these type of barriers technological lock-in.⁸

What then are the implications of technological determinism? Clearly some prerequisites are more important than others. But a given technology need not follow the same development path as it did in our civilization, nor must it manifest itself in its present form.

False-Failed Innovations

Many military innovations are technology based, though not all. To achieve an innovation, an enabling technology must be linked to doctrine and organizations able to wield new capabilities.

The tank and aircraft carrier were successful innovations which were based on technology. Efforts such as the airship never achieved dominance. Still others such as gliders succeeded only briefly. Then there were innovations such as in-flight refueling that were discarded but reappeared when needs and circumstances changed. They are false-failed innovations.

To succeed technology must meet a need that involves choices and tradeoffs. Needs shape development. Provided needs are met, technology can be shaped in various ways, even irrational ones. As needs change over time, so do the characteristics of a given technology.

Air refueling is a classic illustration of how variables play on technological progress. There was little practical use for refueling in flight during the 1920s or 1930s and the concept languished, though British aviation circles kept the basic notion of the technique alive. Thus when an urgent need arose in the Air Force during the 1940s the technology base was ready. Capabilities remained about the same during these decades, but it changed rapidly after 1948. Organizations and doctrine were created that turned the technology into an innovation. Air Force commands grouped tanker aircraft into tanker squadrons and wings within existing organizations. Doctrine evolved as what began as a range extender for bombers spread to tactical aircraft, transports, and helicopters.

The myth of the technology tree only looks toward a narrow set of possibilities, building on what is in use today rather than considering alternative paths such as suitable developments of the past that were prematurely committed to oblivion. All too frequently discarded technologies are ignored. Yet technologies that are inappropriate in one age have been resurrected through adaptive methods and organizations to fill essential requirements at a later time. This process of innovation demolishes the notion that the predictive linear growth of innovations along a single technological course is the only road to the future.

To maximize the capacity to exploit new capabilities, innovators must recognize that past technology is malleable and may evolve into something quite different. And there must be a clear grasp of future requirements. Needs drive how technology is shaped and used. Only by analyzing requirements thoroughly and defining them objectively, unconstrained by narrow thinking about how traditionally military capabilities have been used, can a failed technology become a false-failed innovation. Look first to needs. Revising organization and doctrine must follow, then identifying available technology. Achieving innovations, false-failed or otherwise, frequently requires vision but always calls for hard thinking that transcends a didactic, linear conception of how technology becomes capability. **JFQ**

NOTES

¹ John H. Morrow, Jr., *The Great War in the Air: Military Aviation from 1909 to 1921* (Washington: Smithsonian Institution Press, 1993), p. 68.

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³ Robinson, *The Zeppelin*, pp. 284–93, and Peter W. Brooks, *Zeppelin: Rigid Airships 1893–1940* (Washington: Smithsonian Institution Press, 1992), pp. 103–04.

⁴ Brooks, *Rigid Airships*, p. 172, and Richard K. Smith, *The Airships Akron and Macon: Flying Aircraft Carriers of the United States Navy* (Washington: U.S. Naval Institute Press, 1965), pp. 70–71.

⁵ Jonathan C. Noetzel, *To War on Tubing and Canvas* (Maxwell Air Force Base, Ala.: Air University Press, 1993), p. 3.

⁶ Richard K. Smith, *Seventy-Five Years of Inflight Refueling: Highlights, 1923–1998* (Washington: Air Force History and Museums Program, 1998), pp. 3–7.

⁷ Jared Diamond, *Guns, Germs, and Steel: The Fates of Human Societies* (New York: W.W. Norton, 1997), pp. 239–64.

⁸ Robert Pool, *Beyond Engineering: How Society Shapes Technology* (New York: Oxford University Press, 1997), pp. 152–61.



Chemical drill aboard
*USS Bon Homme
Richard.*

Fleet Imaging Command Pacific (Tyler A. Swartz)

Adversarial Use of Weapons of Mass Destruction

By THOMAS C. LINN

The media reported in August 1996 that Iran had developed a biological weapons arsenal. Moreover, it was stated Israel had warned that these weapons of mass destruction (WMD) would be used against Western cities if the United States attempted to target Iran militarily for involvement in international terrorism. This story reflected emerging apprehension over such threats. Recent events make it difficult to ignore the possibility that an adversary might resort to such weapons.

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The Threat

As the Secretary of Defense observed, the “threat is out there, it’s growing.”¹ The greatest problem in preparing for it has been denial. Throughout the Cold War period the idea of nuclear, biological, or chemical attack was so onerous that many believed it could not happen. This attitude carried over to the post-Cold War era. After Desert Storm, the U.S. General Accounting Office reported that the military was not adequately prepared. Four years later it conceded that although there had been “actions to improve chemical and biological defense since the Gulf War, the DOD emphasis has not been sufficient to resolve many serious lingering problems.”

Yet the proliferation threat is real and the Persian Gulf War provided the evidence. While it was known that Iraq had deployed chemical weapons forward during that conflict, it was not until 1995 that the extent of the threat was understood. Inspections by the U.N. Special Commission revealed that Baghdad had not only produced the sophisticated VX nerve agent but had weaponized 10,000 liters of concentrated botulinum toxin, 6,500 liters of concentrated anthrax, and 1,580 liters of concentrated aflatoxin.² The United States and its coalition partners had gone to war against an enemy who had enough weapons to unleash major chemical and biological attacks.

The WMD threat is not new. Such weapons were used in out of the way conflicts such as the Soviet invasion of Afghanistan, the Iran-Iraq war, and Libya's attack on Chad. Iraq also may have used chemical weapons as recently as 1993 against Shiites in the marshes near Basrah. The regime in Sudan unleashed them against its own people in the Nuba Mountains. But the Aum Shinrikyo cult

almost anyone can buy the services of scientists who built the massive Soviet NBC arsenal

focused attention squarely on WMD when it released sarin gas in the Tokyo subway system in March 1995, leaving 5,000 hospitalized and 12 dead. It was

later discovered that the cult had attempted other attacks, to include the ineffective dispersal of anthrax from the top floor of its Tokyo headquarters.

In addition to the five recognized nuclear powers—the United States, the United Kingdom, France, Russia, and China—seven others may have covert nuclear programs.³ Trends in chemical and biological weapons are more disturbing. As reported by the Defense Intelligence Agency, the number of countries with offensive chemical weapons programs is believed to have doubled in the last 10 years and tripled in the last 20. Those states thought to have offensive biological weapons programs have tripled since the Biological Warfare Convention was signed in 1972.

The seriousness of this threat caused President Clinton to extend the 1994 executive order that declared “the proliferation of nuclear, biological, and chemical weapons and the means of delivering such weapons, constitutes an unusual and extraordinary threat to the national security, foreign policy, and economy of the United States.”

Cheap, Available, Potent

Although we have been reluctant to think about WMD use, others do and it is important to ask why. First and foremost, the requisite expertise is available. Almost anyone with enough cash can

buy the services of scientists who built the massive Soviet nuclear, biological, chemical (NBC) arsenal. While such activity has long been suspected, few realize the degree to which it has occurred. According to the Defense Intelligence Agency, the flow of expertise from Russia's biological weapons programs to Iran, Iraq, Syria, and Libya has been watched with particular interest. As late as 1995, U.N. inspectors discovered sales of Russian biological equipment and materials to Iraq.⁴ Since 1996, Russian know-how has been instrumental in the construction of the Iranian nuclear power plant at Bushehr, which is believed to be a cover for a nuclear weapons program.⁵

Not only is expertise available, so are commercial technologies. If an underdeveloped state like Sudan can produce mustard gas,⁶ so can almost any other state or group. Additionally, many of these technologies have dual applications—commercial as well as military—making it difficult to apply export controls. For example, India has agreed to build a pesticide plant in Iran which some believe could double as a chemical weapons production facility.⁷

Technology is also cheap. Iran's Hashemi Rafsanjani stated on the Tehran Radio Domestic Service that “Chemical and biological weapons are the poor man's atomic bombs”—and with good reason. Building an effective conventional force costs billions and requires time. By contrast, the manufacture of nuclear weapons costs hundreds of millions, although it is a complex process with the most difficult aspect being the production of separated plutonium. A sophisticated production facility for nerve agent might cost only \$30–50 million, according to the Research Institute for the Study of Conflict and Terrorism. That could be cut in half if safety standards were no concern. An industrial fermentation plant that could be converted to produce biological agents could be built for only \$10 million.

Moreover, these weapons are far more lethal. For example, 300 kilograms of sarin nerve agent dispersed in an urban area the size of the Washington metropolitan area can kill 60–100 people. Dispersing 100 kilograms of anthrax in the same area would cause 420,000–1,400,000 deaths.⁸

These incentives are not lost on nations with militaries which face costly modernization of conventional forces, such as Iran. By the end of its conflict with Iraq, 40 percent of Iran's armor and artillery was lost and only a few aircraft remained. Rebuilding its forces has been problematic. Oil revenues have been lower than expected and sanctions have made it difficult to acquire parts for much of its U.S.-made equipment. To compensate for its conventional force shortfalls, Iran has amassed an arsenal with over 2,000 tons of chemical agents, the largest in the Third World.

Bomb damage
assessment,
Desert Fox.



For some nations WMD is the revolution in military affairs. They have watched American performance in the Gulf War with great attentiveness. As the United States increasingly relies on precision guided munitions, potential adversaries have sought WMD. According to a study issued by the RAND Corporation, *Implications of Proliferation of New Weapons on Regional Security*, chemical and biological weapons may be the only way North Korea can succeed militarily in a contest on the Korean peninsula.⁹

Thinking the Unthinkable

The question is how an adversary will use WMD. The problem is that we know very little about this threat. Yet a small but growing body of evidence indicates that several adversaries will use these weapons to support certain objectives.

A nation's pursuit of NBC capabilities says a lot about its intentions. Its weaponization of agents says a lot about how it might use them. Weaponization demands a profound knowledge of the military potential of agents as well as their ability to contaminate. It also requires the expertise to convert most agents into a form suitable for delivery. Some potential enemies have weaponized

agents for 122-mm rockets, artillery shells, and air-delivered bombs, which implies tactical use. However, weaponization of missiles is the greatest concern and has occurred already. After the Gulf War, U.N. inspectors in Iraq discovered missile warheads filled with chemical and biological agents and the fact that the Al-Husayn missile had been flight tested with a chemical warhead.¹⁰ Most nations pursuing NBC capabilities today are also considering long-range delivery means.

On the strategic level adversaries are likely to use WMD to disrupt coalitions. This strategy was a major concern during the Gulf War. Iraq launched 91 missile strikes against Israeli civilian population centers in an effort to provoke Israel to respond militarily and thus fracture the coalition led by the United States, which depended on regional support. Although the strategy failed, it was a major diplomatic concern and diverted 25–30 percent of allied air forces to hunt for Scuds.

A similar strategy can be expected in Korea. Chemical and biological attacks might be used to support North Korea's longstanding aim of separating the United States from South Korea and derauling its security system in Northeast Asia. As North Korean defector Colonel Choi Ju-hwal stated before Congress in October 1997, "If war breaks out in the Korean peninsula, North Korea's main target will be the U.S. forces in the South

USS California
launching missile,
RIMPAC '98.



U.S. Navy (Spike Call)

and in Japan, which is the reason why the North has been working furiously on its missile program." Such attacks might cause the Japanese government to deny bases to U.S. forces, which would hinder efforts to support and reinforce the war in Korea.

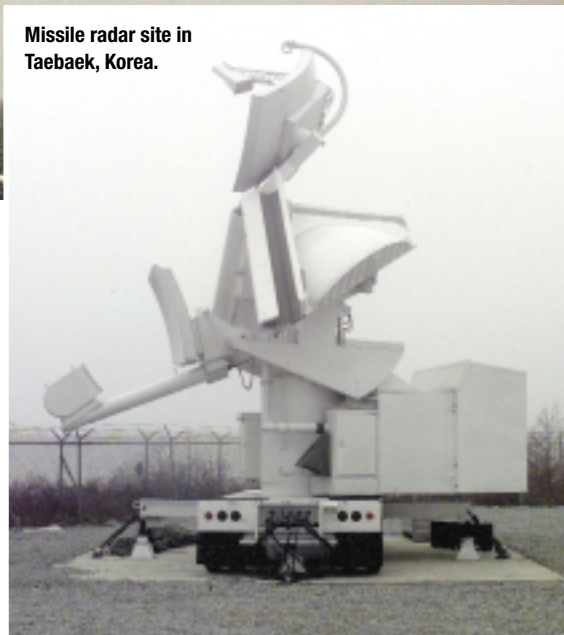
The same possibility exists in the case of Iran. It has warned other Gulf states not to act as American clients. Iran may be using WMD to dissuade its neighbors from participating in a U.S.-led coalition. From Qeshm Island in Iran, NBC capable

some adversaries may use WMD for terrorist strikes against population centers

Scud C missiles simultaneously threaten the capitals of Qatar, the United Arab Emirates, and Oman. The long desired acquisition of North Korea's Nodong missile would allow Iran to extend its coverage of the Arabian peninsula to include Riyadh, Dhahran, Bahrain, Masirah, and several Saudi oil fields.

Under this strategy, some adversaries may use WMD for terrorist strikes against population centers. This use is likely to be based on lessons of the Iran-Iraq War. Cities on both sides were targeted throughout the conflict. Between February and April 1988, Iraq fired over 160 missiles at Tehran. Some 2,000 Iranians were killed and half the population fled. The attacks contributed to the Iranian collapse in the summer of 1988. This

Missile radar site in
Taebaek, Korea.



55th Signal Company (Christina Ann Horne)

war not only shaped the military thinking of Iran and Iraq, but also of North Korea, which studied it extensively.

While North Korean missiles may not cause significant military damage in Japan, they may be used as terror weapons. Pyongyang's special forces might also attempt terrorist attacks against northeast Asian cities. According to some thinking such attacks could persuade the United States that confronting North Korea is too perilous, leading to American disengagement.

The relevance of coalition busting strategies goes beyond denial of regional basing support. In

Scud missile site,
Roving Sands '97.



U.S. Navy (Stephen Bartz)

the wake of World War II the Allies developed an international system to protect the sovereignty of every nation and precluded interventions such as those conducted by Japan and Germany. This intention is manifest in Article 2(4) of the U.N. Charter which makes coalitions and U.N. support an imperative if the United States is to maintain the moral and legal high ground in interventions.

On the operational level, adversaries can be expected to use WMD to thwart U.S. power projection in their respective regions. As one Indian general reportedly stated after the Gulf War, no nation should go to war with the United States without a nuclear weapon. This represents an ironic turn of events. In projecting power into a region, the most likely and vulnerable targets will be ports and air facilities. WMD would seriously impede U.S. deployments. Some analysts have examined what might have happened if Iraq used VX nerve agent or even nuclear weapons against such Saudi ports as Ad Dammam and Al Jubayl as well as air facilities like Dhahran, Taif, and Riyadh. Deployments would have occurred in contaminated environments or diverted to Red

Sea ports. In either case the buildup would have been protracted, and Desert Storm would have been far different in its conduct. This point would not likely be lost on a resurgent Iraq.

Although Iranian chemical and biological programs are not as sophisticated as Iraq's, they may be intended to deter power projection. Scud missiles that could hit the Gulf states from Iran could also strike U.S. prepositioned bases in Qatar and Oman. Although conventional warheads would by no means destroy these bases, chemical or biological attacks would hinder U.S. troop deployments significantly. In addition, Iran has claimed that it can close the Strait of Hormuz to potential threat. Chinese-produced C-802 anti-ship missiles based on Qeshm Island to command the strait, as well as sea and air based platforms, may be used to support that claim.¹¹

This effort to deter power projection may include the tactical employment of WMD. Over the last few years, Iranian amphibious operations

1st Combat Camera Squadron (Kim Price)

Checking masks prior to deployment.

have featured chemical operations training. Such exercises are usually, but not exclusively, defensive. In addition, the Iranian use of chemical and biological weapons on the tactical level is deficient in organization and capability.

For the foreseeable future the most formidable use of WMD is likely to be made by North Korea. At very least, the Korean People's Army can be expected to employ chemical weapons against port and air facilities to prevent the arrival of U.S.

detection of biological attack remains the single most important technical problem

reinforcements, as well as in support of its advance south. North Korea has pursued an indigenous chemical weapons capability since the late 1970s. This implies a reasonably well defined warfighting doctrine and training in chemical operations. For the sake of readiness, chemical munitions have been distributed to the four corps on the demilitarized zone and to artillery and mortar units.¹² Moreover, brigade-size Scud-C missile units could hit targets throughout the southern half of the peninsula.¹³

The current security environment demands that we rethink the WMD threat. We only have a general sense of how these weapons might be used. We know little about the specific doctrines, operating concepts, and tactics of potential adversaries. In addition, there are significant gaps in our knowledge of their effects according to some experts.¹⁴ Defining adversarial use of WMD is not only key to understanding the nature of the threat, but also how to respond to it.

Response—Doing the Unthinkable

The United States has traditionally relied on export controls and international conventions to stem proliferation. However, the growing threat places more emphasis on counterproliferation. Regional planning is underway and several acquisition programs have been initiated to realize the Defense Counterproliferation Initiative of 1993.¹⁵ The effectiveness of such efforts depends on understanding adversarial use. Otherwise we might spend vast sums on the wrong equipment and also develop the wrong doctrine, plans, and training. This may have already occurred. According to the Salk Institute, vaccines to be administered to U.S. troops may not immunize against certain anthrax agents. The MDPH vaccine has only been tested against natural strains of anthrax and not the genetically engineered variant developed by Russia and perhaps possessed by Iraq.¹⁶

Defining adversarial use cuts across areas of responsibility. The intelligence community must assess intentions, programs, supporting infrastructure, and operational practices of potential adversaries. There are also critical technical issues requiring research and development to discover the effects of such weapons, particularly chemical and biological agents that have emerged over the last few years. Detection of biological attack remains the single most important technical problem with respect to counterproliferation, with no definitive solution yet.

Equally important, operators must appraise adversarial use in order to define requirements. The Armed Forces do not have operational concepts that realistically portray NBC use and may be putting their trust in obsolete concepts. Developing concepts means determining probabilities and orienting them on likely uses. This requires scenario-based wargaming to include incorporating red planning cells in operational planning.

Understanding adversarial use also offers insights into deterrence, which essentially occurs in the mind of the beholder. During the Cold War, the West knew what deterred the Soviets, and it was largely punishment. Moreover, each side understood the other's nuclear doctrine and posture; so whenever signals were sent, both sides were certain they would be received and comprehended. Today minds have changed and are more numerous. There is less assurance about what deters.

Denial is key to deterrence. If potential adversaries believe that WMD may not be effective, they are less likely to waste them on military use than to preserve them for political use. Deterrence must be based on active defense capabilities and counterforce measures. When possible U.S. forces must destroy enemy WMD assets before they are employed. The Gulf War confirmed that finding targets is easier said than done. Once

found many require a hard-target kill capability. Most potential adversaries buried their arsenals deeper underground after Desert Storm.¹⁷ Denial also includes theater missile defense to protect both U.S. and allied forces. In addition, deterrence based on denial requires a serious attitude change with respect to passive defenses.

The Armed Forces must deal with the onerous task of operating in NBC environments. Their ability to function largely denies an enemy the effects of these weapons. Punishment may also play an important role in deterring WMD use. Even though adversarial intentions in this area remain obscure, many planners and analysts believe that U.S. nuclear capabilities are very much a concern to would be enemies. However, the WMD threat is real and the likelihood of employment is growing. A dramatic change in thinking is needed to deter their use and mitigate their effects. Failing to address this vexing issue will make the Nation vulnerable to physical destruction as well as psychological devastation.

JFQ

NOTES

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¹⁶ MacKenzie, "Naked into Battle."

¹⁷ Tomas C. Linn, "The Underground Arms Race," *Armed Forces Journal International*, international edition (October 1997), p. 31.

A Vision for Joint Theater Air and Missile Defense

By HERBERT C. KALER, ROBERT RICHE, and TIMOTHY B. HASSELL



USS O'Kane test firing surface-to-air missile.



Readying Patriot launcher at Kuwaiti air base.

Joint operations will call for ever greater levels of interoperability. The need for improved interoperability to counter theater level air and missile threats will be especially acute. Cooperation between air and missile defense organizations and weapons systems features separate engagement zones and depends

on coordination and procedures to reduce conflicts between systems. However, future conflicts will necessitate rapid and effective interaction among system components as well as integrated information generated by them. They will also demand that these systems operate within a coherent framework to produce capabilities for joint warfighters while capitalizing on the synergy inherent within a class of air and missile defense systems.

Even though the Persian Gulf War established clear technical and tactical superiority by the United States over enemy aircraft, the need for

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a new approach to integrated air and missile defense that embraces improved interoperability and addresses emerging threats became increasingly clear in the last decade. Deficiencies in theater ballistic missile defense architecture during Desert Storm indicated that coalition forces could not coordinate and execute adequate defense against ballistic missile threats in real time. Shortcomings in positively identifying objects flying in the battlespace have been the subject of many studies. Deficiencies in identification had tragic consequences when *USS Vincennes* shot down an Iranian commercial airliner in 1988. Positive identification proved difficult in the Gulf War, and errors

information on detecting, tracking, and identifying targets cannot be consistently transferred among systems

contributed to another tragic incident in 1994 when Air Force interceptors shot down two Army helicopters in the Iraqi no fly zone. The Defense Science Board published a study in 1995 outlining the challenge posed by growing cruise missile capabilities and postulating how such threats could stress integrated air defenses.¹ Finally, events in the Balkans have demonstrated just how a coordinated air campaign using cruise missiles and manned aircraft operating in collaboration could disrupt sophisticated air defense capabilities.

Experience shows that weapons components—such as interceptors, sensors, and command and control—are not sufficiently interoperable to take advantage of their respective potential ranges and lethality. While considerable resources have been spent improving weapon range and lethality, interoperability problems that enable warfighters to employ these systems at maximum range have not been solved. Whether the causes can be attributed to technical limitations, issues of autonomy, or concern over fratricide and erroneous engagements, the practical effect is that we limit the ability of commanders to take advantage of weapons performance potential and unnecessarily constrain the time and battlespace available to support decisionmaking.

Systems Interoperability

Exacerbating the situation is the fact that information on detecting, tracking, and identifying targets cannot be consistently transferred among systems. This lost data compels the warfighter to regenerate and reiterate track and identification information. This consumes time, limits chances to engage targets early, misses opportunities for multiple target engagements, and further constrains available battlespace.

The end result is that interoperability deficiencies degrade the ability to provide warfighters with joint and integrated architectures, advanced concepts, and weapon systems for defense against theater air and missile threats. Diminished interoperability could have enormous consequences if an enemy elects to use its evolving systems to deliver weapons of mass destruction. The evidence builds a compelling case that despite major technical accomplishments in the past, air and missile defense capabilities in place today do not interoperate as effectively as they should.

As interoperability shortcomings became clear, the complexity and capability of the air and missile threat increased. The relatively short-range threat of theater ballistic missiles, like the Scud of the Persian Gulf War, is giving way to longer range missiles able to deliver payloads over great areas as evidenced by recent missile launches in Iran and North Korea. Emerging threat capabilities point toward a dangerous future.

Ballistic missile defenses will be improved enormously as new systems enter the inventory. The Patriot Advanced Capability (PAC-3), Navy Theater Wide (NTW), Theater High Altitude Area Defense (THAAD), and Airborne Laser (ABL) may limit the military utility of ballistic missiles for an enemy.² Land attack cruise missiles, however, are likely to appear as an alternative. The maneuverability of cruise missiles imposes increased stress on friendly air defense capabilities. They look and act like aircraft, fly close to the ground to avoid detection, and unlike ballistic missiles have no predictable trajectory. Operating in the same battlespace as the dominant air forces, cruise missiles add a confusing feature to an already complex picture of the situation. Sophisticated cruise missiles that fly very low and feature small radar cross sections present even greater challenges to defenders. The more sophisticated the missile, the more difficult it becomes to positively identify it as friendly or hostile. An enemy may view cruise missiles as a means to capitalize on U.S. concerns about fratricide and to improve an attack's chances of success.

Finally, our experiences can be a marvelous teacher for potential enemies. Recognizing the success of U.S. and NATO forces in employing integrated aircraft and cruise missile attacks in the Balkans, a future enemy may attempt to integrate its operations by using aircraft, theater ballistic, and cruise missiles to minimize effectiveness of U.S. and allied air defenses. Some estimates have discounted the ability of enemies in the near term to exercise high level planning and coordination to successfully integrate an air campaign. Given the availability of computers and planning tools, it seems at best naïve and at worst arrogantly shortsighted to think that U.S. and NATO forces

**Patriot launchers
departing for Southern
Watch.**



1st Combat Camera Squadron (James D. Messman)

are the only ones with the wherewithal to mount such an offensive. Moreover, access to weapons of mass destruction makes the threat of even modest integrated attacks worrisome.

Operational Requirements

The service development and acquisition communities recognize emerging requirements for improved capabilities and are making considerable progress in sensor and interceptor technologies. New systems and improvements to existing systems are overcoming many technical challenges to detect and engage air and missile threats. Systems developed and fielded by service proponents are designed to meet the specifications in operational requirements documents, some of which pre-date the current understanding of joint needs and thus do not address joint interoperability. The danger is that systems may be built that are only as interoperable as stipulated in requirements documents and that fail to recognize or place value on a joint perspective.

The Joint Theater Air and Missile Defense Organization (JTAMDO) was formed in 1997 to work with the Ballistic Missile Defense Organization (BMDO), unified commanders in chief, and the services under an integrated product team

process to insert a joint perspective into deliberations on future air and missile defense capability. This JTAMD process has been an important venue for examining TAMD interoperability issues and a vehicle for players across the TAMD community to identify potential solutions.

JTAMDO, in collaboration with BMDO, is charged with delivering improved, interoperable air and missile defense warfighting capabilities to CINCs. JTAMDO serves as the focal point and advocate for operational requirements and concepts while BMDO provides systems engineering and acquisition management expertise for implementing a TAMD class of systems architecture that improves interoperability and provides capabilities needed by the CINCs.

The JTAMD process is examining a range of TAMD questions. Areas under consideration include TAMD battle management C⁴I, both active and passive measures to enhance air and missile defense, and operations conducted to attack air and missile threats before their use against friendly forces. The process is also exploring combat identification shortcomings, issues related to cruise missile defense, and means to address the limitations of Persian Gulf War systems against theater missile threats. The JTAMD process must eventually address questions of interoperability among U.S. air and missile defense capabilities in allied and coalition environments.

A vision of TAMD capabilities in the year 2010 has emerged from the JTAMD process and has energized a dynamic view of the future battlespace. It accommodates two major perspectives as it discusses future capability. First, it discusses the TAMD battle in terms of desired outcomes and addresses the capabilities required to attain them.

a vision of TAMD capabilities in 2010 articulates the need to capitalize on synergy created by jointness and interoperability

Second, the vision discusses the operational conditions and environment within which the TAMD battle is likely to occur. It articulates the need to capitalize on synergy created by jointness and interoperability to produce a complete and accurate picture of the battlespace, and generate operational flexibility to meet fluid and dynamic conditions. Understanding this vision is critical for refining requirements, creating engineering solutions, and delivering capabilities to the warfighter.

The vision is centered on a definition of the TAMD mission area created within the JTAMD process that states activities within the mission area seek to:

Prevent, defeat, and minimize the consequences of adversary employment of ballistic, cruise, and air-to-surface missiles and aircraft, especially those equipped with weapons of mass destruction. Preventing entails destroying launchers, missiles, aircraft, and their sustaining and enabling infrastructure on the ground, or otherwise suppressing missile launchers and aircraft sorties. Defeating involves intercepting missiles and aircraft in flight to destroy their payloads. Minimizing consequences deals with warning specific personnel and areas at risk of missile and aircraft attack in time to enhance their protective posture.

The TAMD vision introduces six basic tenets that combine to describe capabilities needed to achieve the desired outcome of the mission area. The tenets are enabling conditions for *preventing*, *defeating*, and *minimizing* activities in the mission area and suggest a pathway to interoperability which starts with increasing situational awareness in the battlespace and extending multi-sensor integration capabilities for earlier information on prospective targets. This pathway continues by improving sensor ranges to obtain additional battlespace and optimizing the overall probability of destroying attackers with increased engagement opportunities. The conditions that prevent, defeat, and minimize outcomes require increased interoperability between existing systems and an open, integrated architectural approach for emerging capabilities.

Prevent, Defeat, Minimize

The tenet identified with preventing, attack operations, is designed to stop air threats prior to launch. Debate over the relative contribution of attack operations to the TAMD mission area is ongoing and touches sensitivities related to service roles and missions, asset allocation, and control. This article does not attempt to influence the debate except to indicate that future TAMD operations rely on the major role that attack operations must play in reducing a threat set to manageable levels. Emerging joint doctrine asserts that attacking to destroy or disrupt theater missiles prior to launch is the preferred method of countering enemy theater ballistic missile operations. A similar approach can be advanced with regard to cruise missile and manned aircraft threats.

The next four tenets of the vision primarily concern the defeat aspect of the TAMD mission area and represent functions that support active defense measures against in-flight air and missile threats. Primary among the active defense tenets discussed in the vision is the need for a complete, common, and accurate picture of the air battlespace that permits everyone involved to perceive and understand the situation in the same way. This picture, developed by integrating capabilities and data from systems throughout the battlefield, produces only one track for each airborne object as opposed to multiple tracks produced by current systems. This single integrated air picture (SIAP) provides commanders with a view of the battlespace which has sufficient quality to vastly improve the accuracy and timeliness of coordination and operational decisions. SIAP increases the chances of successfully engaging threats by providing a better picture to key operators than can be achieved through organic systems alone by supporting joint and overlapping weapon engagement zones and by offering multiple engagement opportunities and options to commanders.

SIAP enhances the defense of a broad area with mutually supporting joint and interoperable forces. It creates conditions to attain self-synchronization among air and missile defense elements. These elements of self-synchronization—robust, networked entities sharing awareness information and a rule set to operate interactively—reduce the demands for different elements to regenerate and retransmit location information as well as other data. Self-synchronization links go a step beyond situational awareness to a point where weapons and sensors receive information on the respective status of every element (such as available missiles, fuel on board, system operating parameters, targeting information, and tracking data) in sufficient detail for the control components to identify which sensor is best positioned to track targets or control fires, and which weapon can



USS Hewitt firing SM-2 anti-missile rockets.

U.S. Navy (T/Swartz)

best shoot at a target. The effects of SIAP combine to increase the ability of commanders to rapidly shift air and missile defense resources and focus effects on an enemy.

The next tenet is long range, wide area combat identification. Airborne objects within the battlespace must be detected early to enable the multiple engagement opportunities needed for high

commanders need tools to take advantage of the extended battlespace made available by integrated fire control

confidence, full dimensional protection. Defense in depth depends on opportunities to engage and defeat incoming air threats. Building on SIAP, wide area combat identification maintains relevant information, establishes a single identification for each object, and merges data collected from both identification and track sources to build integrated track information. Reliable identification linked to SIAP enables the release of defensive weapons with the confidence that friendly

forces will not be hit and increases the engagement options available. Effective wide area combat identification is key to reducing the complexity of the battle picture and helping to distinguish between friendly and hostile aircraft, enemy cruise missiles, and other objects of interest within a commander's areas of responsibility. This aspect of the vision addresses the types of shortcomings that contributed to the *USS Vincennes* and Blackhawk incidents.

Integrated Fire Control

Admiral William Owens, the former Vice Chairman, suggested that connecting fire control radar from a land-based system with missiles from a sea-based system might provide capabilities which exceed either system. The integrated fire control described in the TAMD vision extends the case for synergy between systems by focusing on making the best use of available air and missile defense assets. For example, fusing target information from various sensors potentially improves the quality of target data and may permit the destruction of targets beyond the range of constraints imposed by organic surveillance radar. A realistic, technically attainable result of an integrated fire control approach is launching a weapon with information obtained from a remote sensor (perhaps including advanced sensor technologies for precision tracking and terminal guidance data) against targets the weapon would not normally be able to detect or engage. The vision postulates several benefits of integrated fire control that include overcoming horizon limitations imposed by terrain and the curvature of the earth, reclaiming battlespace by increasing the size of defended areas, and improving defense in depth. Integrated fire control seeks to overcome the limitations of individual systems by employing the strengths of all surveillance, fire control, and weapons capabilities.

The fifth tenet is automated battle management aids. It is derived from the challenges posed by the management of widely dispersed, highly technical assets over extended geographical areas. Greatly expanded air and missile defense resources on a joint battlespace require selecting a proper mix of assets quickly and accurately, and exercising effective control in a dynamic environment. Commanders need tools to take advantage of the extended battlespace made available by SIAP, earlier combat identification, and integrated fire control. Automated battle management aids require common algorithms and inputs, detailed information about system members, and a means to codify options to ensure consistency and quality of decision support information. Such tools will reduce complexity to manage available TAMD resources.



U.S. Army

THAAD FTV-03 at White Sands Missile Range.

The last tenet represents a subset of the large, extensive functional area of passive defense. Obviously, theater air and missile defense is not the only purview of passive defense. The vision is focused on an element of passive defense, improved early warning, that offers a discrete, TAMD relevant portion of the overall function. Early warning and other elements of passive defense that must be eventually addressed develop in the minimize component of the mission area. Warning also involves predicting impact points and times to prompt active defense systems on anticipating intercepts and to enable forces to optimize passive defense measures. One goal of early warning is to avoid reducing the operational effectiveness of friendly forces in areas unaffected by missiles.

A Joint Perspective

Several steps must be taken in order for TAMD to become a reality. The JTAMD process must identify architectural alternatives for requisite capabilities. Costs associated with developing and fielding such capabilities must be identified with as much precision as possible. Recognizing

fiscal realities, the process must prioritize capabilities to implement basic elements of the vision. Despite evidence that air and missile defense architecture has not yet achieved the requisite interoperability, no program or funding source exists specifically to create interoperability in TAMD systems and organizations. The JTAMD process must lead decisionmakers to make investment decisions which will implement appropriate capabilities.

JTAMDO is leading the first comprehensive assessment of a warfighting mission area from the perspective of a joint, interoperable class of systems. This mission area assessment will offer a common picture of the theater air and missile defense, identify metrics for warfighting, and furnish an investment strategy for solving challenges associated with implementing the JTAMD vision.

BMDO and JTAMDO are forging a long range master plan to articulate joint requirements for interoperability, designing a class of systems architecture to meet the requirements, and laying out an acquisition strategy to make the architecture a reality. This TAMD master plan relies heavily on the active participation of the joint warfighting community. Eventually the acquisition road map will provide an incremental approach to implementing integrated, interoperable TAMD capability.

Capstone documentation on operational requirements prepared by U.S. Atlantic Command which has now been redesignated U.S. Joint Forces Command—considered TAMD from a position of joint interoperability. This series of documents includes a joint mission needs statement, capstone requirements document, and future documents applicable to TAMD systems. The documents represent a basic new approach to communicating requirements for theater air and missile defense to the development communities, and they will have a significant impact on future systems requirements documents.

The path toward air and missile defense interoperability undertaken by JTAMDO, BMDO, JFCOM, and other members of the military establishment conforms with the Nation's approach to defense. The information centric vision leverages America's lead in information technologies to minimize casualties and meet the goals outlined in *Joint Vision 2010*. The TAMD vision for 2010 outlines an attainable architecture that protects forces from theater air and missile threats. The architecture offers commanders the flexibility to operate effectively in the dynamic battlespace of the future, makes the best use of technological advantages, and pushes warfighting capabilities well ahead of any potential enemy. **JFQ**

Medical evacuation training, Joint Guardian.



982 Signal Company (Alexander T. Rucke)

GOOD MEDICINE in Bad Places

By TIMOTHY D. KILVERT-JONES

The military has long realized the potential of telemedicine to impact on operational health care support. Initial research and development efforts, begun by the Army, established the Telemedicine and Advanced Technologies Research Center (TATRC) under the auspices of the U.S. Army Medical Research and Materiel Command. Today the Armed Forces field telemedicine teams in support of land, sea, and air operations worldwide, with TATRC and the Casualty Care Research Center also providing research, instruction, advice, and logistics to Federal agencies and various civilian health care organizations at home as well as abroad.

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New Requirements, New Capabilities

Expanding requirements for telemedicine reflect strategic priorities. Growing demands for medical support in a range of operations, often in austere environments, has accelerated the call for new technology. Like other sectors, the military needs increasingly timely, agile, and sophisticated health care to stay effective, operate within budget, and treat victims of conflict or natural disaster.

Telemedicine emerged in the 1990s as a means of enhancing health care for forces deployed apart from national or NATO infrastructure facilities associated with Cold War contingencies and permanent garrisons located in Europe and the Pacific. Small dispersed units operating far forward are characteristic of deployments today. Terrain, weather, enemy forces, and even minefields have isolated bases. Casualties, escorts, and medics are exposed to unnecessary

risk with conventional medical processes and evacuation techniques. Telemedicine communication architectures (in NATO protocols, among principle aid agencies, and within ad hoc coalitions) offer an alternative.

NATO-deployed forces usually have only generic medical support. They lack specialists or even senior doctors to cope with various injuries, diseases, and combat trauma patients. The British military tries to deploy the most experienced doctors into the field, enhancing the effectiveness of telemedicine architecture. Experienced and competent general surgeons are more able to respond to the directions of distant specialists in treating a broader range of casualties.

rapid technical advances have proved great enablers in providing good medicine in bad places

Telemedicine Defined

Today technology is used to transmit medical information for diagnosis, therapy education, and data base development. This information may include medical images, live two-way audio and video, patient medical records, output data from medical devices, and sound files.

Two approaches are being developed. The first at the lower end, called store and forward, uses still or video images with attached medical notes that are forwarded to get a specialist second opinion, prepare a different medical site for receiving the casualty, and provide teaching material in an electronic medium. This approach has been refined in Kosovo by using a commercial carrier. In more benign environments telemedicine may involve live teleconferencing between patients and professionals, monitoring patient data from distant sites to clinics, or sending patient medical files from primary care providers or even first responders to specialists. This second and more sophisticated approach is not favored by deployed units because of cost and bandwidth limits on real time data transmission.

Not surprisingly the United States, which has given great impetus to the information based revolution in military affairs, has applied that technical vision, technological innovation, doctrinal adaptability, and organizational flexibility to military health care. The Armed Forces have emerged as the leader in both telemedicine research and application. Moreover, the technique is widely used throughout the national health care structure.

As the Air Force deputy for telemedicine and advanced technologies reported to Congress:

In deployment, the implications of telemedicine to health care delivery are dramatic, affecting readiness through training and wellness promotion, and operational efficiency as illustrated in Operation Joint Endeavor in Bosnia. The insertion of a teleradiology system changed the medical footprint and allowed x-ray interpretation to be conducted from afar. Through experience gained in military treatment facilities both overseas and at home, telemedicine technologies have begun to institute themselves into peacetime delivery of medical care.

The Department of Defense regards telemedicine as the convergence of technological advances in numerous fields including medicine, telecommunications, computer engineering, informatics, artificial intelligence, robotics, material science, and perceptual psychology. Admittedly broad that concept goes beyond the generally held notion that telemedicine is simply mitigating the tyranny of distance. It leverages myriad emerging technologies into the reengineering of health care practices.

In Britain the Defence Medical Services (DMS) hopes to soon issue the Surgeon General's Policy on Telemedicine. It has already created the DMS Telemedicine System to provide specialist advice on patient management to operationally deployed medical units. At present the system uses a digital camera to capture a clinical image which is transmitted with clinical notes via the Internet to the British Military Telemedicine Unit at the Royal Hospital Haslar. Satellite communications are used when telephone links are inadequate. Nine medical teams use the system worldwide.

Capability for the Future

Rapid technical and organizational advances have proved great enablers in providing good medicine in bad places. The potential of high-speed data and image transmission has increased and the cost of telecommunications technology is simultaneously falling. Telemedicine can assist not only the military but the health care community. Benefits include more flexible training of medical professionals and para-professionals. It will also enhance communications between providers and consumers and may help contain diseases or effects of chem-bio attacks by stimulating responses by Federal agencies and first responder medical units.

A technology transfer program has enabled several technologies devised for military health and logistics systems to be utilized by civilian health care providers. However, legal, regulatory, and financial barriers persist in telemedicine and telehealth. Apart from malpractice, licensure, and certification issues, contract and insurance laws



982² Signal Company (Willis G. Pelton)

Demonstrating telemedicine equipment.

Medical platoon arriving in Brdo, Kosovo.



55th Signal Company (Sean Terry)



1st Combat Camera Squadron (Jim Varhegyi)

Prioritizing patient care, Bright Star '99.

have not kept pace with the growth and application of technology to new fields of human activity. In addition, while information systems generally benefit from technical engineering developments, allies and even individual services lack a base of reliable and substantive networked health care information. Not only must they collate information into a standardized format; they also need affordable and reliable access to health information in all areas of emerging research, training, and health delivery.

Developing quality electronic content is paramount in the evolution and utilization of health informatics and telemedicine systems. Unless those in the military health care industry take charge of the content developed for dissemination over the Internet or in non-networked format, private enterprises which lack authentication and substantive knowledge will do it and do it poorly. Then there is a danger that a truncated version of health information, bits and bytes of care, will emerge. Equally important is the need to address security, protect the confidentiality of patient information, and provide operational security for the military. One can imagine an enemy monitoring the effect of a chemical or biological attack on a high-tech but vulnerable opponent. Electronic records are merely a first step in harnessing medical information. The search for a global (macro) solution has been an impediment to scaled interoperable applications that are useful safeguards and can be put in place today. Security protocols, which evolve into greater military and public assurance of privacy and



4th Combat Camera Squadron (Tolaydo Allen)

Joint medical staff,
Pacific Warrior '99.

confidentiality, will accelerate development of the existing knowledge base and utilization of telemedicine tools.

The U.S. Government, including DOD, is meeting health information and telemedicine challenges by developing uniform information systems and common encryption that cut across departmental and agency boundaries. However, many programs are still nascent, focusing on format and interoperability and not yet reaching the substantive content issues.

Creation of a viable repository of commercially available health care information, of use to practitioners and academicians all the way down to the average consumer, must start today. The National Library of Medicine has been electronically cataloguing a vast array of health materials

for several years but is only starting to make a dent in networking a massive archive, even though techniques such as data warehousing and

data mining proffer tools to achieve what once appeared to be impossible. Moreover, security software for encryption, authentication, and secure transfer of data exists in the form of virtual private networks and electronic data interchange. Partnerships with academic institutions, professional organizations, and health professionals will also be needed to develop a medical knowledge base and help consumers assess reliability and quality.

The challenge is resources. Medical acquisition staffs must harness a vast knowledge base electronically before it can be packaged for mass consumption. But it is no secret that academic medical centers are in trouble and medical research in general is suffering. Biomedical advances are struggling because of a lack of capital. Venture capitalists are pursuing Internet technologies with abandon, draining investments in medical research.

Reality Check

Telemedicine is not the panacea for either military health care or combat medical support. Wilder claims by its advocates have suggested that helmet cameras and two-way communications linked back to a field hospital from first responders (the combat medics) would substantially reduce combat fatalities. In reality only 5 percent of battlefield mortalities are salvageable, in general those from bleeding and chest wound categories. The critical issue is to identify and deploy technologies that can help rather than hinder combat medics.

Where telemedicine is appropriate is in the more benign environment out of the firing line. The U.S. Casualty Care Research Center studied effects of telemedicine on a battalion deployed in Macedonia. There was a 40 percent reduction in evacuations, with most emergency cases being quickly downgraded because of access to specialists in hospitals in Europe and the United States. This has significant implications: morale was high because a vast medical structure was backing up the troops and reduced evacuations had a concomitant effect on unit effectiveness. A similar study in the 7th Fleet in the Mediterranean found evacuations to mainland facilities reduced by 40 percent. Savings alone are considerable. The operational implications are also striking, because ships at sea can remain on task and maintain operational security as the communications bandwidth improves.

Telemedicine in Kosovo

The following case study taken from the archive telemedicine database being developed by the Casualty Care Research Center in Bethesda

came from a military hospital in Pristina, Kosovo. It highlights the need for an immediate review of how governments, relief agencies, and military organizations apply care in new world of disorders. Western powers must rationalize their efforts and create a more effective planning and execution process for telemedical assistance in conflicts, post-conflict reconstruction phases, and military operations other than war.

We as military doctors have come out here in the immediate aftermath of war. We came prepared for, and are coping alright with the acute trauma but we are not so prepared and have certainly not planned for the less acute but disabling injuries. My orthopaedic and other medical colleagues and I are daily being faced with such patients, who come of their own volition or with NGOs [non-government organizations] desperate for our help. We are repeatedly having to work on an ad hoc basis to try and find out how to organize medevacs for civilians, and we use our telemedicine satellite telephone to contact specialists we know back in U.K. who we think might be able to help. It is not just a matter of leaving it up to the NGOs or the government because it is glaringly evident the NGOs have not organized for this at all, so we are being faced with it. We as doctors are just as determined when patients come to find the best solutions for them. I have yet to meet one NGO who can show such a chain in action.

As an example, I am attaching a photo of one such patient, who had his right eye, maxilla, and nose blown off by a bullet whilst fleeing a massacre two months ago. On seeing him you will understand my wish to help him, and his desire to seek help. I used the Olympus C2000 loaned to me by Olympus to photograph his wound, and the Olympus C1400XL to photograph his x-rays, and then sent all the images via my telemedicine link to . . . a maxillofacial surgeon who specializes in reconstructive work at Leeds General Infirmary. . . . He has been galvanized by these images and accompanying clinical details into

offering to help this patient—so he is now trying to get his [National Health Service] Trust to promise to fund the hospital stay and treatment. . . .

This has all been ad hoc and individually arranged. How much better it would be if preparation and planning at national level for these completely foreseeable war injuries had happened beforehand, so that we doctors could simply set a well-oiled chain in action for our patients.

Such cases are already daily occurrences in the United States, where the NEONET on the World Wide Web helps neonatal surgeons conduct active telemedicine with participating hospitals. That shared expertise is proving invaluable and is a lesson to all NGOs and governments.

The Way Ahead

Some NATO members favor benign roles in operational deployments. Their commitment to providing medical aid and combat service support functions can now be harnessed and focused. Under the leadership of NATO medical and information technology committees, a major step can be taken to establish an extensive medical and humanitarian aid database. Thus the Alliance could capitalize on the Internet revolution and telemedicine in the near term. As a former surgeon general commented in 1996, "Wherever you can put a telephone, you have the potential for telemedicine, you are expanding the doctor's office to the whole world." American and British telemedicine deployments in the Balkans and elsewhere have demonstrated the benefits of providing surgeons and medics with over-the-shoulder help from expert colleagues to offer diagnostic and therapeutic consultations. NATO must now address the issue and exploit synergies created by the innovative leadership of the United States and Great Britain.

Common NATO telemedicine policy will enhance equipment and software interoperability and further rationalize deployment programs scaled to the needs of particular operations. In five to eight years, most graduating military and general physicians, other health care professionals, and health technicians will be extremely computer and web literate. By then society will have calmed the hysteria of the information warfare gurus and mastered the potential of emerging technology. Commanders and policymakers must also be educated as to what telemedicine can and cannot do. This will allow the creation of a telemedical tool that will deliver better medicine in both good and bad places and meet the priorities identified by medical planners for Task Force Eagle that remain extant. Those priorities called for maintaining total patient-soldier accountability in real time from the first encounter with a physician; minimizing evacuations; providing rapid, definitive, world-class response to trauma; using specialty medical support from within the military health care system; and providing the medical leadership with an overview of all aspects to enable high-tempo medical support. **JFQ**



55th Signal Company (Gary A. Bryant)

Mobile medcam,
Roving Sands '97.

Generals Marshall and Eisenhower, 1943.



Defense Secretariat REFORM

By ULDRIC L. FIORE, JR.

The immediate post-World War II period was a turning point for the defense establishment. A confluence of circumstances propelled transformations that will continue into the 21st century. The National Security Act of 1947 began a process of unification. President Harry Truman named General George Marshall to be Secretary of Defense and upheld civil supremacy over the military by relieving General Douglas MacArthur. And the onset of the Cold War initiated the evolution of the multilayered defense bureaucracy which still thrives today.

Fifty years later, however, there is a consensus that additional reform is needed to ensure national security. The Commission on Roles and Missions, Quadrennial Defense Review, Defense Reform Initiative, and National Defense Panel called for revamping the Department of Defense. This article argues that reform must extend to the defense and service secretariats, that is, to the Office of the Secretary of Defense and the subcabinet level offices of the three service secretaries. Such reform is not only advisable for fiscal reasons, it is the next step in the process of unification that began in 1947. It is critical for maintaining civilian supremacy and reversing the deterioration of this traditional role into the modern and less efficient concept of civilian control.

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General MacArthur during Inchon landings.

Naval Historical Center

The Tradition

Civil supremacy is not merely civilian control but rather military subordination to the people through their elected officials, Congress and the President. This tradition emerged in England when the Bill of Rights of 1689 prohibited standing armies in peacetime without the absolute consent of Parliament. The Constitution of the United States reinforced this ideal by granting to Congress, not the President, the power to raise, support, and regulate the military, and naming the President as Commander in Chief only of those forces which Congress provides.

Notwithstanding an inherent suspicion of standing armies and emphasis on subordination to civil authority, Presidents have often had considerable military experience. George Washington, Andrew Jackson, Zachary Taylor, William Harrison, Ulysses Grant, and Theodore Roosevelt all led units in combat. That experience was not perceived as a threat to civil supremacy and, because they were duly elected officials, Congress retained its constitutional role.

The Army has been favored by some uniquely powerful leaders, none of whom defied civil supremacy. Washington publicly resigned as commander in chief following the British surrender at Yorktown, ensuring civil governance. But Washington was elected President and later

named commander in chief of the Army by Thomas Jefferson. Winfield Scott, who served commanding general of the Army from 1841 to 1861, was a candidate for the Whig Party nomination in 1852. George McClellan openly prepared for a presidential campaign while on active duty and ran against Abraham Lincoln in 1864 after resigning. Leonard Wood campaigned for a nomination in 1920 while Douglas MacArthur, a general officer for 33 years and one of the most powerful officers in U.S. history, accepted relief from command by President Truman and also flirted with thoughts of running for the presidency.

Many secretaries of war had served as Army officers, starting with the first, Henry Knox, and including Henry Dearborn, Jefferson Davis, William Sherman, and John Schofield. None of them considered their military status a threat to civil supremacy.¹

Despite this record, when Truman asked Congress in 1950 for a waiver to name General of the Army George Marshall as Secretary of Defense, it had been 30 years since any military officer had served in this civil arena.² Although Marshall was highly respected by Congress, a serious, principled, and nonpartisan debate on civil supremacy ensued in both chambers. The vote on the waiver passed by only a bare majority in the House and a plurality in the Senate. After further debate, the Senate confirmed Marshall in a less than overwhelming vote.

Congressional discomfort was short-lived. Less than seven months later Truman relieved MacArthur from command in Korea. As unpopular as that decision was, the President's authority was unquestioned, least of all by MacArthur, and represented a reaffirmation of civil supremacy.³ MacArthur addressed a joint session of Congress, and true to his words, did "just fade away."

It was well that Congress resolved its concerns. Within a year, the slogan "I like Ike" was a resonating political theme, and within two years General of the Army Dwight Eisenhower, after resigning his commission, would take the oath of office as President—and Commander in Chief.

Events through the end of the Truman administration confirmed the nature of civil supremacy.⁴ It is a tradition of the military being "subject to the President, the Congress, and the will of the people"—to elected civil authority.

Defense Unification

Throughout World War II the defense establishment was comprised of the War and Navy Departments. These coequal, cabinet-level bodies

Truman asked Congress for a waiver to name Marshall as Secretary of Defense

Secretary Aspin and
General Powell, 1993.



DOD (R.D. Ward)

competed for influence with the President and for resources before Congress. The services achieved the necessary cooperation through an ad hoc Joint Chiefs of Staff.

The National Security Act of 1947 consolidated the defense establishment under a cabinet-level Secretary of Defense and loosely subordinated the three military departments: Army, Navy, and Air Force. This law also created the National Security Council and Joint Chiefs of Staff, with a rotating chairman as a first among equals.

Reorganization was not without controversy, especially among the services, which stood to lose autonomy and status, and members of Congress, who would be denied access and influence. The result was a less efficient structure and a weak Secretary of Defense with more autonomous service secretaries than initially proposed. For example, service secretaries retained cabinet-level rank and became full voting members of the National Security Council. The effort to combine two cabinet departments into one yielded four.

Congress twice amended the National Security Act to strengthen the role of the Secretary of Defense vis-à-vis the service secretaries. The amendments of 1949 removed the service secretaries from the National Security Council, reduced them to subcabinet rank, clarified their subordination to the Secretary of Defense, and established the position of Chairman of the Joint

Chiefs of Staff, though without any command authority or vote within the Joint Chiefs. In subordinating military departments to the “direction” of the Secretary of Defense, Congress nevertheless stipulated that they would be separately administered and not merged.

The DOD Reorganization Act of 1958 further refined relationships. Military departments would be separately organized rather than administered and put under the “direction, authority, and control” of the Secretary of Defense. In addition, the law explicitly granted the Secretary authority to reorganize departments and defined the chain of command as passing from the President through the Secretary and Chairman to theater commanders. Thus Congress settled the authority of the Secretary in law if not in practice—law that would remain essentially unchanged for 25 years.

Goldwater-Nichols

The next significant reform was the Goldwater-Nichols DOD Reorganization Act of 1986. Much of the debate over the impact of this legislation fails to recognize that it was not an event unto itself, but rather a continuation of the unification process which began after World War II.⁵

Secretary of the Navy Danzig at Pentagon briefing.



DOD (Helene C. Stikkel)

The intent of Congress was to enhance the ability to command on the part of the Secretary. Moreover, the Goldwater-Nichols Act bolstered the roles of the Chairman, Joint Staff, and unified commanders “to improve the military advice

Goldwater-Nichols achieved a more centralized defense secretariat, strengthened the Joint Staff, and fostered jointness among the services

given to the President, Secretary of Defense, and the National Security Council.”

General Colin Powell, the first Chairman to serve a full term in the Goldwater-Nichols era, applied his talents to take full advantage of the authority granted to him and the Joint Chiefs under this law. Although the purpose of Congress was to strengthen civilian authority, the enhancement of the Chairman’s role and authority, along with Powell’s exploitation of it, have been assailed as “the collapse of civilian control over the military.”⁶

But there is general agreement that the law achieved a more centralized defense secretariat, strengthened the Joint Staff, and fostered jointness among the services. Officers receive more joint education. Moreover, because assignments rotate between joint and service tours every few years, there is little entrenchment, and each cohort of new officers gains a better joint perspective.

In addition, while operational authority is more central, civil supremacy over the military is not degraded. The civilian authority of the Secretary of Defense is enhanced. Even civilian control is not lessened. It has simply been shifted to the defense secretariat from service secretariats.

From Supremacy to Control

Much criticism of Goldwater-Nichols is focused on its impact on civilian control. The law followed unprecedented growth of the secretariats (Defense, Army, Navy, and Air Force) as well as the defense agencies, Joint Staff, and service staffs. Secretariats—small oversight and coordination entities before the 1950s—blossomed during the Cold War, which for the first time justified a large peacetime military. Secretary of Defense Robert McNamara and his whiz kids brought corporate style management to the Pentagon, while increased resources required to support the arms race and space programs, superpower competition, and the Vietnam War sustained multilayered defense and service bureaucracies. These factors simply brought more civil authority over daily activities.

Congress was a willing accomplice in this bureaucratic expansion. “Since 1947,” explains David Smith, “[Congress] added not only the civilian Secretary of Defense but also a host of other civilian appointed officials within the office of the Secretary of Defense [and service secretariats].”⁷ Each assistant secretary acquired a large

staff, portfolio, agenda, and congressional constituency. Members of Congress and their staffs enjoyed more access, wielded greater influence through political appointees, and tasked secretariats for more frequent and detailed reports.

The current structure results in duplication, overlapping functions and authority, limited accountability, and parochialism. Between 1987 and 1994, while overall military strength declined by 25 percent, presidential appointees increased by 40 percent. During that period, overall civilian strength decreased by 20 percent, but senior level employees (GS 12–15) increased by 20 percent.⁸ The average tenure of appointees, however, is less than two years, and military personnel rotate almost as often, with general and flag officers averaging two years and less senior officers two to three years. By contrast to political appointees and military officers, senior civil employees often spend decades in a secretariat without required rotations.

Those who call for increased jointness must recognize that one of its greatest impediments is multilayered entrenched secretariat bureaucracies. This structure is a legacy of the compromises made in 1947 and management systems prevalent in the corporate world throughout the Cold War and introduced by McNamara to the Pentagon. Since the passage of the Goldwater-Nichols Act threats to national security have become less apocalyptic and less defined. The Armed Forces have undergone drastic reductions in personnel while adopting business management practices that have created flatter organizations and promoted increased outsourcing. But such reforms have not made a significant impact on the defense or service secretariats, whose organization charts have retained their overall breadth and depth. These secretariats remain full-blown, multilayered bureaucracies with agendas as parochial as those of the service staffs.

The headquarters of the Department of Defense still includes some 30,000 personnel which suggests that:

It is time to streamline the management structure of the military departments by eliminating duplication, layering, and redundant operations and personnel. This would simplify the decisionmaking process, providing clearer accountability for performance, and improve the efficiency of the policymaking machinery of defense management.⁹

Reform versus Control

The civilian oriented secretariat structure is larger than that required to maintain civil supremacy. According to one critic, "The Office of

the Secretary of Defense is more than capable of exercising civilian control of the military. . . . You could do away with [service secretaries] tomorrow, and no one would miss them."¹⁰

Those who oppose proposals to reform, streamline, or otherwise reduce the size, scope, or authority of the secretariats argue that these organizations are essential to ensuring civilian control over a highly centralized military establishment. They claim that civilian control is a fundamental principle. There is some truth in this assertion. Centralized authority in the Secretary of Defense, Chairman, Joint Staff, and unified commanders, in combination with the inevitable drawdown of the defense establishment, may reduce the quantity of civilian management. But the advocates of civil control also have it wrong. While essential to maintaining civil supremacy, civilian control is not an equivalent. Rather it is a product of the Cold War without constitutional basis.

Neither the Goldwater-Nichols centralization of operational authority nor a centralization of secretariat authority through reduction and reform jeopardizes the traditional and constitutional civil supremacy exercised by Congress or the President as Commander in Chief. Reduced control is no threat to civil supremacy and therefore should be no obstacle to secretariat reform.

In urging combined service secretariats and staffs, the *Report of the Commission on Roles, Missions and Functions of the Armed Forces of the United States* issued in May 1995 concluded that the disadvantages are outweighed by the advantages. As one observer asked: "Considering both the downsizing of the Armed Forces and the loss of responsibility and authority of the service secretaries and military chiefs of staff, do we need both levels and their large staffs. . . ?"¹¹ He concluded that "service secretaries and their separate staffs . . . represent unnecessary layering that is no longer needed within DOD."

A Concept for Reform

Three objectives must guide secretariat reform: maintaining civil supremacy, incorporating organizational and management systems to accommodate innovation, and eliminating duplication and unnecessary layering. Although clearly the priority, civil supremacy is not at risk in secretariat reform. Since the Goldwater-Nichols Act, the Secretary of Defense, supported by the Chairman, has the authority to maintain civil supremacy in almost any reform scenario that does not regress to stronger, independent service secretaries. Nor is civilian control in danger. With 7,000 personnel, even if Defense Reform Initiative reductions are implemented or service secretaries and secretariats were eliminated altogether, there

would be enough civilian appointees in the Office of the Secretary of Defense to retain authority.

Reform must be flexible enough for secretaries to incorporate modern organizational and management systems and 21st century innova-

reform must be flexible enough for secretaries to incorporate modern organizational and management systems

tions. Legislation that overly specifies organizational structure would limit the department's ability to adapt, whether in warfare or business practices. Nevertheless, reform must eliminate

redundancy. Lack of legislative guidance in this area would invite innovative initiatives to maintain the status quo. Secretariat reform thus must balance the flexibility to prepare for the future with addressing present organizational and management flaws.



Secretary Cohen and General Shelton, 1998.

DOD (Helene C. Stikkel)

Despite the potential for duplication and inefficiency, service secretaries should be retained. Their traditional roles are important. Moreover, their specific and at times parochial perspectives are essential to policy debate within DOD. While service secretaries are no longer essential to civil supremacy itself, the Secretary of Defense needs their varied perspectives and competing visions to formulate national military strategy and defense policy.

The service secretariats could be consolidated into the defense secretariat by function. The secretaries could be retained to perform traditional and statutory functions but with modest personal staffs, relying otherwise on service staffs and chiefs to act as true chiefs of staff. Liberated from secretariat bureaucracies, service secretaries could evolve into dual roles: their traditional role and a cross-service role as under secretaries of defense for land, sea, or aerospace forces (or similar titles and portfolios).

In their traditional role, the secretaries would have direct access to the Secretary of Defense on behalf of their respective departments as well as supervisory authority over service chiefs and staffs. Their joint role would add DOD-wide staff coordination authority within their cross-service areas of responsibility (land, sea, or aerospace) to coordinate policy, acquisition, and the allocation of resources. For example, it would be appropriate for the Secretary of the Army in a capacity as under secretary of defense for land forces to become involved in issues affecting the Marine Corps and Air Force relating to common doctrine, equipment, and training. Similarly, an under secretary of defense for aerospace forces would have legitimate interests in naval as well as Army aviation and space issues.

Given functional consolidation, service assistant secretaries would report to the appropriate under secretary or assistant secretary of defense or a new element if a like function does not exist. The Office of Assistant Secretary of the Army for Manpower and Reserve Affairs, for example, would be folded into the Office of the Under Secretary of Defense for Personnel and Readiness.

After consolidation is completed the defense secretariat should be reorganized to eliminate duplication and overlapping as well as reduce personnel to the minimum level required for assigned functions. The goal should be a flat, streamlined organization that has functional integrity within each defense secretariat element or subdivision. Jurisdictional overlap and unneeded layers must be eliminated. An organizational study similar to those used to contract out government operations would be essential to ensure the benefits are realized. To bring about personnel savings, the process must specify endstate ceilings for civilian and military positions as well as grade ratios that do not exceed current grade distributions.

Some estimate that overall savings could be equal to current manpower levels in the service secretariats: 1,000 personnel with an annual payroll of \$125 million or more. More importantly, the synergy of reform could produce intangible benefits. A consolidated defense secretariat would be joint, with each staff element including

deputy under secretaries or deputy assistant secretaries representing land, sea, and aerospace forces.

Integrating service secretariats and staffs would further advance jointness and the evolution of service secretaries into dual roles. New titles would underscore both traditional and joint roles; for example, an under secretary of defense for land forces who is also the Secretary of the Army. Cross-service involvement would not be to the exclusion of parent service responsibilities, but rather would offer complementary perspectives. Nor would their involvement across the defense secretariat reduce the authority of the Secretary of Defense.

Title 10 responsibilities as well as other special functions (inspector general, public affairs, and legislative liaison) could be retained by the service staffs, subject to secretarial authority unless they are merged in the defense secretariat for greater efficiency. Functions such as acquisition and resourcing may be appropriate to divide by assigning long-term duties (research and development, major acquisition development, and resource programming and planning) to the defense secretariat while maintaining smaller acquisitions and the execution phases of system acquisition and fielding, budgeting, and budget execution with service staffs.

Reform of the multi-secretariat defense structure is inevitable given the fifty year process of unification and resource constraints that demand greater efficiencies. This pressure to reform does not threaten traditional civil supremacy. Nor does it restrict civilian control unless one concludes that bureaucratic inefficiencies are its absolute prerequisites.

Reform must be deliberate and flexible. It requires objective, credible organizational study and specific objectives to ensure savings and efficiencies. Yet it must preserve the ability to evolve flexibly within the defense establishment without resorting to Congress for incremental authority.

Functional consolidation of service secretariats into a reorganized defense secretariat would complete the unification process begun over fifty years ago. The result will not only meet the key objectives for secretariat reform—civil supremacy, flexibility, and resource savings—but enhance jointness within the civilian hierarchy.

Dual-rolled service secretaries could cross existing lines under their respective land, sea, or aerospace portfolios to enhance commonality and multiservice issues, while consolidated elements of the defense secretariat could draw upon joint expertise without appealing to parochial agendas. In short, service secretariats need not be the third rail of defense reform.

JFQ

NOTES

¹ Disputes between commanding generals of the Army and secretaries of war usually were concerned with authority over the headquarters bureaus (similar to elements of service staff today), the location of military headquarters, and the power of a secretary to issue orders directly to field commanders. Winfield Scott was the center of two such controversies. In 1828 he protested the appointment of Alexander Macomb as commanding general by Secretary Peter Porter. Macomb was the same rank as Scott but junior in seniority. In 1854, now commanding general himself, Scott challenged the authority of Secretary Jefferson Davis. The President ruled in favor of his secretary in both matters. Scott continued to serve despite these confrontations, waiting 13 years to succeed Macomb as commanding general and serving in that capacity well beyond his dispute with Davis. Until the reforms sponsored by Secretary Elihu Root, commanding generals usually considered themselves field commanders, with their headquarters away from Washington.

² The National Security Act of 1947 stipulated that the Secretary of Defense be selected from civilian life and excluded former officers who had not been retired or discharged for 10 years. By law generals of the army do not retire but retain active status for life. Absent congressional waiver, Marshall was ineligible. This same restriction applies today.

³ Edward B. Westermann, "Contemporary Civil-Military Relations: Is the Republic in Danger?" *Airpower Journal*, vol. 9, no. 2 (Summer 1995), p. 76; Geoffrey Perret, *Old Soldiers Never Die* (New York: Random House, 1996), p. 569.

⁴ For a well-documented history of the American civil supremacy tradition through 1950, see William R. Tansill, "The Concept of Civil Supremacy in the United States," Public Affairs Bulletin 94 (Washington: Library of Congress Legislative Reference Service, February 1951).

⁵ See, for example, James R. Locher III, "Taking Stock of Goldwater-Nichols," *Joint Force Quarterly*, no. 13 (Autumn 1996), pp. 10–16; Robert Previdi, "Goldwater-Nichols: Where Have Ten Years Taken Us?" *U.S. Naval Institute Proceedings*, vol. 123, no. 5 (May 1997), pp. 14–16; John E. Greenwood, "Editorial: Goldwater-Nichols," *Marine Corps Gazette* (February 1997).

⁶ Douglas C. Lovelace, Jr., *Unification of the U.S. Armed Forces: Implementing the 1986 Department of Defense Reorganization Act* (Carlisle Barracks, Pa.: Strategic Studies Institute, U.S. Army War College, 1996), p. 29.

⁷ David A. Smith, "Who Needs the Secretariats," *U.S. Naval Institute Proceedings*, vol. 121, no. 12 (December 1995), p. 43.

⁸ William K. Brehm, "On Revolution, Barriers, and Common Sense," lecture, National Defense University, Washington, December 3, 1996.

⁹ Smith, "Secretariats," p. 43.

¹⁰ Chuck Vinch, "AF, Army Keep Ticking without Civilian Bosses," *Pacific Stars and Stripes*, March 26, 1998, p. 1.

¹¹ Smith, "Secretariats," p. 43.

GRADUATED PRESSURE



Honolulu conference,
1966

Naval Historical Center

President Johnson and the Joint Chiefs

By H.R. M c M A S T E R

As early as May 1964 President Lyndon Johnson seemed to realize that the war in Vietnam would be a costly failure. In a taped phone conversation he confided to National Security Adviser McGeorge Bundy, “[It] looks like to me that we’re getting into another Korea. It just worries the hell out of me. I don’t see what we can ever hope to get out of this.” Vietnam was, Johnson said, “the biggest

damn mess that I ever saw. . . . It’s damn easy to get into a war, but . . . it’s going to be harder to ever extricate yourself if you get in.” Despite Johnson’s premonition, a web of events and decisions had slowly transformed the war into an American conflict. Although many forces such as the ideological imperative to contain communism, bureaucratic structure, and institutional priorities influenced Johnson’s decisions, those decisions depended primarily on the character of the President, his motivation, and his advisers. His fixation on domestic political goals, combined with a civil-military relationship based on

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Americans and Vietnamese during maneuvers, 1965.



Naval Historical Center

distrust, rendered the administration incapable of dealing with the tragic complexities of Vietnam.

Crossing the Threshold

No single decision led to direct intervention in Vietnam. Indeed, involvement began during World War II and grew during the 1950s as the United States first supported the French, then the fledgling nationalist government of South Vietnam against the communist North. The American military effort tripled between 1961 and 1963 as President John Kennedy tried to stabilize a rapidly deteriorating situation in the South. The assassinations of both Ngo Dinh Diem and John Kennedy in November 1963 marked a turning point. After that America would confront a new war.

Distressed over brutal repression of Buddhist unrest by the South Vietnamese government, the Kennedy administration fomented a coup against its ally that resulted in the murder of Diem and his brother, Ngo Dinh Nhu. With Diem gone, as Kennedy noted two weeks before his own death, the United States had “a responsibility to help this new government to be effective in every way we can.” As American responsibilities widened,

the Viet Cong sought to take advantage of the sudden change of government. The dynamic situation in the South after the coup against Diem added impetus to deliberations in Washington. The new President, Lyndon Johnson, and his advisers concluded that the situation demanded action beyond military advice and support. Between November 1963 and July 1965 critical decisions were made that took the United States into war against the communists.

The next turning point occurred in Spring 1964 when a strategy of graduated pressure was adopted. This strategic concept envisioned applying force at a low level and gradually increasing its scope and intensity and became the blueprint for deepening the American commitment to South Vietnam. It aimed to influence enemy calculations through carefully selected and controlled actions designed to send the right signal.

Initial elements of graduated pressure—covert action against the North—were underway as the United States crossed the threshold of direct involvement. After a North Vietnamese gunboat attacked U.S. destroyers in the Gulf of Tonkin on August 2, Johnson seized on the report of an ambiguous second attack on August 4 to mount a political coup against his Republican opponent in the November election, Barry Goldwater. The result was the Gulf of Tonkin resolution which gave the President carte blanche for escalation. From September 1964 to February 1965, he was able to advance domestic agenda items while assigning

initial elements of graduated pressure were underway as the United States crossed the threshold of direct involvement

Portable gas station
northeast of Saigon,
1966.



Naval Historical Center

Secretary of Defense Robert McNamara to build consensus behind the strategic concept of graduated pressure.

Having refused to respond to Viet Cong assaults on American facilities, the President again advanced the level of intervention in February and March 1965. Following an enemy attack on an air base at Pleiku, Johnson decided on February 9 to initiate systematic limited air strikes against targets in North Vietnam. On February 26 he committed ground forces to South Vietnam. Lastly, on March 15 he quietly approved engaging the Viet Cong by U.S. ground forces. Though none of those actions was tantamount to a clear decision for war, they collectively transformed the Nation's commitment to South Vietnam.

Together the decisions might give the impression of a deliberate administration inclination. Yet Johnson in fact did not want to go to war and had no plans to cross that line. Rather he sought to postpone an explicit choice between war and disengagement indefinitely.

Contriving Consensus

Profoundly insecure, Johnson feared dissent and was obsessed with preventing damaging press leaks. In 1964 he was preoccupied with becoming President in his own right. Vietnam was principally seen as a danger to that end. After the election he feared congressional or public debate over

Vietnam would jeopardize efforts to create the Great Society, his domestic legislative program. He could not risk failure. McNamara would help the President protect his electoral chances and enact the Great Society by providing a Vietnam strategy that appeared cheap and could be pursued with minimal public and congressional scrutiny. The McNamara approach of graduated pressure would permit Johnson to pursue his objective of not losing the war while postponing the day of reckoning and preserving the illusion of continuity with the policies of previous administrations.

Johnson's desire for consensus rather than debate shaped his relations with the Joint Chiefs of Staff and his other advisers and determined who exerted influence over Vietnam policy. When circumstances seemed to demand military action, the President did not turn to the chiefs to explore the consequences of expansion. He went instead to his civilian advisers to find ways to postpone a decision. He used McNamara to shield him from calls for more resolute action and the Secretary's visits to Saigon gave the impression military recommendations were under serious consideration. Forming ad hoc interdepartmental study groups had a similar effect. Additionally, McNamara used the Chairman, General Maxwell Taylor, to check recommendations forwarded by the Joint Chiefs. Taylor, who thought his role was to be a "true believer in the foreign policy and military strategy of the administration which he serves," shielded Johnson from views advanced

by his less politically sensitive colleagues while telling the chiefs their recommendations had received full consideration. To prevent the Joint Chiefs from expressing dissenting views, Taylor helped craft a civil-military relationship in which the President obscured the finality of decisions and made false suggestions that the chief's conception of the war might one day be realized. Meanwhile, with the Joint Chiefs relegated to the margins, civilian planners developed a flawed strategy for fighting what seemed to them a war without precedent.

Graduated Pressure

McNamara was confident that he could help the President postpone a decision between war and disengagement. He believed nuclear weapons and the Cold War environment made traditional military thinking not only irrelevant but dangerous. Accordingly, with systems analysts and other civilians in the Pentagon and the Department of State, he developed plans independent of military advice and the historical record. Bolstered by what

that defies systems analysis quantification. Once America crossed the threshold with covert raids and Gulf of Tonkin reprisals, the course of events depended not only on decisions made in Washington, but also on unpredictable enemy responses. But McNamara viewed the war as another business management problem that would succumb to rational calculations. He and his whiz kids thought that they could predict with precision what amount of force would achieve the desired result and that they could control that force with precision from halfway around the world. However, there were compelling arguments that graduated pressure would not convince Hanoi to desist from fomenting insurgency but in fact could lead to escalation. General Harold Johnson, Chief of Staff of the U.S. Army, doubted that even the total destruction of North Vietnam would end the insurgency. Nevertheless, McNamara refused to consider the consequences of his strategy and forged ahead oblivious to the nature of the conflict and the human and psychological complexities of war.

Despite the recognition that graduated pressure was fatally flawed, the Joint Chiefs were unable to articulate their objections or alternatives. Interservice rivalry was an impediment. Although their differing service perspectives and interests were understandable, the chiefs were obligated by law to render their best advice. Both a failure to do so and a willingness to present single-service remedies prevented them from thinking effectively about strategy. They in large measure abdicated their statutory responsibility as principal military advisers.

When it became apparent that the Joint Chiefs were to have little influence on policy, they refused to confront the President with objections to McNamara's approach. Instead they attempted to work within that strategy to gradually remove limitations on further action. Unable to develop an alternative to graduated pressure, they became fixated on means and pressed for escalation by degrees. They hoped graduated pressure would evolve into an essentially different strategy more attuned with their belief in greater force and its more resolute application. In so doing, they gave tacit approval to graduated pressure as the President escalated the war. They failed to recommend the force levels that they believed would ultimately be required and accepted a large but inadequate number of troops for an extended period with little hope for success. Lacking a strategy, the Joint Chiefs and the senior American officer in Vietnam, General William Westmoreland, equated military activity with progress and focused on a tactical task, killing the enemy.

despite the recognition that graduated pressure was fatally flawed, the Joint Chiefs were unable to articulate their objections or alternatives

he regarded as a personal triumph during the Cuban missile crisis, he applied that experience to Vietnam. A principal assumption of graduated pressure, that carefully controlled and severely limited military action was reversible and thus could be carried out at minimal risk and cost, allowed McNamara and Johnson to avoid facing many of the consequences of their actions. Graduated pressure created the illusion that attacks on the North were means of communication and alternatives to—rather than acts of—war. Because the favored method of communication (bombing fixed installations and economic targets) was not appropriate against a guerrilla force, McNamara and his colleagues pointed to the infiltration of both men and supplies as proof that the source of enemy power lay north of the 16th parallel, specifically in Hanoi. They derived their definition of the source from the strategy of graduated pressure rather than a critical examination of the reality in South Vietnam.

Graduated pressure was fundamentally flawed in other ways. It ignored the uncertainty of war and the unpredictable psychology of an activity that involves killing and destroying. To the North Vietnamese, attacks on their forces and bombing of their territory were not simply means of communication. Human sacrifice evokes strong emotions that create a dynamic



Marines boarding
USS Lenawee for
Vietnam, 1965.

The Whiz Kids

Johnson and McNamara were far from disappointed with the failings of the Joint Chiefs. The President, because of domestic priorities, had little use for advice that was inconsistent with his political objectives. Meanwhile, McNamara resolved to take advantage of their weaknesses. He reported to Johnson in March 1964 that a divide-and-conquer approach to the chiefs was going well. For military

advice, McNamara relied primarily on his whiz kids at the Pentagon, a group of young analysts who McNamara and Kennedy had drawn into government service. They considered military experience a liability because soldiers took a narrow view and based advice on antiquated notions of warfare. One top analyst likened leaving decision-making to the professional military to allowing welfare workers to develop national welfare programs. The whiz kids used statistics to analyze defense programs and issues and then provided the Secretary and the President with the information to make decisions. The whiz kids saw no limits to the applicability of their methods. They sought maximum political payoff in Vietnam at minimal military cost and assumed that Ho Chi Minh, when faced with a threat of military muscle, would behave reasonably and end support for the communist insurgency.

It should not be surprising that the way in which the United States went to war between November 1963 and July 1965 would profoundly



Naval Historical Center (Allan K. Holm)

Ambassador Taylor and General Westmoreland, 1965.

influence the conduct of the conflict and its outcome. Policy decisions were based on domestic political expediency. The President was intent on forging a consensus behind what he believed was a middle ground policy that would not alienate key constituencies on which his domestic goals depended. The administration deliberately avoided clarifying objectives and postponing discussing the level of force it was willing to commit.

Johnson played to the sympathy of the Joint Chiefs, referring to himself as the coach and the chiefs as his team

Indeed, because Johnson was seeking a political consensus built on lies and obfuscation, members of the administration believed that ambiguous objectives were a strength rather

than a weakness. Civilian planners in the Departments of Defense and State concluded they could preserve American credibility after a show of force against Hanoi in which Americans were bloodied. That approach, combined with the notion that force was merely a form of diplomatic communication, militated in favor of stalemate rather than victory. After the United States became committed to war, however, and more Americans died in combat, it would become impossible to simply disengage and declare national credibility intact. This should have been foreseen.

The Team

The Joint Chiefs sensed the ambiguity in Johnson's policy but did not directly challenge the views of civilian planners. Thus when the United

States went to war, the chiefs pursued different goals from the President and Secretary. When they sought permission to apply force consistent with their conception of U.S. objectives, Johnson and McNamara, based on their own goals and domestic political constraints, rejected their requests or granted them only in part. The Joint Chiefs and Secretary focused on means rather than ends, and on tactics rather than a strategy designed to connect military actions to achievable policy objectives.

Instead of advice, McNamara and Johnson extracted acquiescence and silent support from the Joint Chiefs for decisions that they had already made. Even as the chiefs were relegated to the margins, a facade of consultation was preserved to preclude them from opposing administration policies openly or from behind the scenes. As involvement escalated, the President's vulnerability to disaffected senior officers increased because he was deceiving Congress and the public about the nature of the military effort. To keep the chiefs on the team, the President and Secretary obscured their decisions and left their limits on the use of force undefined. In April 1965, Johnson promised the money, material, and effort needed to defeat the Viet Cong. He played to the sympathy of the Joint Chiefs, referring to himself as the coach and the chiefs as his team.

The ultimate test of loyalty came in July 1965. Administration falsehoods increased in magnitude as the conflict escalated. The President misrepresented the mission of ground forces, distorted the views of the military to lend credibility to his decision against mobilization, grossly understated the number of troops requested, and misled Congress about the cost of actions already taken and those awaiting decision. The President was lying and he expected the Joint Chiefs to do the same, or at least withhold the whole truth. They did not disappoint him. In the days before Johnson made his duplicitous statement of July 28, 1965 about Westmoreland's request for more ground units, they withheld from Congress their estimates of the forces needed and their belief that mobilization was necessary, thereby lending silent support to Johnson's deceptions.

Several factors kept the chiefs from challenging this subterfuge. They felt genuine loyalty to the President as Commander in Chief. Moreover, the Truman-MacArthur controversy during the Korean War reminded them of the danger of overstepping their bounds under civilian control of the military. Any action that could undermine administration credibility and derail Vietnam policy could not be undertaken lightly. For one, General Earle Wheeler, who became Chairman in July 1964, believed the war could "be lost in



Naval Historical Center (VO. McColley)

Troops conducting search-and-destroy mission, 1966.

Washington if Congress loses faith." Parochialism also played its part. Chief of Naval Operations, Admiral David McDonald, and the Commandant of the Marine Corps, General Wallace Greene, both compromised themselves for concessions to their respective services. Moreover, the characters of the chiefs predisposed them to acquiescence rather than confrontation. The strength of the Chief of Staff of the U.S. Army, General Johnson, lay in perseverance under difficulty rather than challenging the administration, an act that he would regret for the rest of his life. General John McConnell, when interviewed for the position of Chief of Staff of the Air Force, promised his full support to the President even if he felt administration policies were flawed. He believed his role was to provide the National Command Authorities with "suitable alternatives for the application of military power" so the President and Secretary could "choose the one that best solved the problem as they saw it."

Although the chiefs must give Congress their best advice based on professional experience, they must not overstep the bounds of civil control of the military or undermine their credibility by crossing the line between advice and advocacy. Because the U.S. Constitution places that control in Congress as well as in the executive, they could not have been justified in misleading the people through their representatives about Vietnam. During the critical period in which Vietnam became an American war, a deceitful and manipulative civil-military relationship allowed the President to deny Congress and the public to openly voice their views in the most momentous issue a nation faces.

Because forthright communication between civilian officials and military officers was never established in the Johnson administration, there was no reconciliation of the intention on the part of McNamara to sharply limit the military effort and the assessment by the Joint Chiefs that the United States could not possibly win under such conditions. Had there been such an exchange, everyone would have recognized the futility. Instead, the chiefs lent credibility to the President's deceptions, aiding him in forestalling meaningful debate, and focused on a tactical task, killing the enemy.

The Westmoreland strategy of attrition was in essence the absence of a strategy. The result was military activity (bombing targets in the North and killing the enemy forces in the South) with no realistic objective. As casualties mounted, the public lost faith. The chiefs did not request the level of troops necessary to impose a military solution until after the Tet offensive in 1968. But by then the President was besieged by opponents to the war and unable to even consider the matter.

Lyndon Johnson thought he could control U.S. involvement in Vietnam. That conviction, based on a strategy of graduated pressure and assurances by Robert McNamara, proved false. The President should not have been surprised by the consequences of his decisions between November 1963 and July 1965. He had disregarded advice he did not want to hear in favor of a policy based on the pursuit of his own political fortunes and domestic programs. The disaster in Vietnam was not the result of impersonal forces but of a uniquely human failure, the responsibility for which was shared by Johnson and his key advisers. The failings were many and reinforcing: arrogance, weakness, lying in the pursuit of self-interest, and above all the abdication of responsibility to the American people. **JFQ**

Kennedy swearing in Taylor as Chairman.



Courtesy Special Collections, NDU Library (Cecil W. Stoughton)

The Great Divide

Strategy and Covert Action in Vietnam

By RICHARD H. SHULTZ, JR.

Despite significant resistance from the Joint Chiefs, the Office of Strategic Services (OSS) was established in June 1942. The chiefs didn't believe an OSS-type organization could contribute much to the war. They were also wary of its director, William ("Wild Bill") Donovan, who was seen as a loose cannon who just might convince President Franklin Roosevelt to assign a high priority to covert action.

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OSS carried out the entire bag of tricks during the war: subversion, sabotage, commando raids, psychological warfare, and aid to partisans. It made important contributions to the allied victory. Donovan's approach seems unimpeachable in hindsight. Covert action must be integrated into the overall strategy. Donovan saw this as a bedrock principle.

U.S. military leaders in Vietnam never gave Donovan's approach a moment's notice and probably had not heard of it. The Pentagon did not consider paramilitary operations by the Studies and Observation Group (SOG) of U.S. Military Assistance Command Vietnam (MACV) integral



B-52 releasing
750 pound bombs.

Naval Historical Center

to strategy. Donovan's concept of covert action was unknown to General William Westmoreland, Commander of U.S. Military Assistance Command Vietnam (COMUSMACV), and to other senior officers who were fighting the Viet Cong and North Vietnamese Army (NVA).

Kennedy and Special Warfare

The unwillingness of the Pentagon to accept the value of SOG was part of its opposition to Kennedy's demand for special warfare capabilities.

the Army closed ranks and did all it could to neutralize what the President had in mind

The Armed Forces had been victorious in two world wars and had successfully prosecuted a limited war in Korea, where conventional strategy and forces had been the answer. The military developed a conventional mindset, and technological advances in mobility and firepower only reaffirmed that approach.

For Kennedy, however, the nature of war was changing. If the Armed Forces continued to follow a conventional course they would end up being most prepared to fight the least likely war and would be least ready for the most likely war. Although the Pentagon still had to be prepared to defeat the Soviets, the real action was fighting guerrillas in the Third World.

Opposition to special warfare was formidable. It began with General Maxwell Taylor, who came out of retirement to become Kennedy's special military representative. In 1962 he returned to active duty as Chairman of the Joint Chiefs of Staff. He was a strong proponent of

firepower and maneuver by well armed conventional forces. The Army closed ranks against special warfare and did all it could to neutralize what the President had in mind: conventionally trained infantrymen could accomplish the counterinsurgency mission. It was not what Kennedy wanted to hear.

The Pentagon was equally opposed to special warfare. Even though Kennedy directed the military to take over and expand action against North Vietnam, it demonstrated no eagerness for the assignment. As in the case of OSS operations, if there was no way of avoiding the matter, the Joint Chiefs at least wanted some control, particularly after the Bay of Pigs.

The chiefs were missing in action because they had been cut out of the planning process on Cuba by the Central Intelligence Agency (CIA), which used military resources, including soldiers, but had not asked for military advice. To prevent a recurrence, the chiefs wanted control over all military involvement in future covert action. But wanting control did not mean aggressively taking on a covert action agenda.

The decision to transfer the covert war to the military can be traced to a meeting convened by Secretary of Defense Robert McNamara in 1962 on the takeover of CIA paramilitary programs. It was attended by representatives of the Departments of Defense and State, the Central Intelligence Agency, U.S. Pacific Command (PACOM), and MACV. In light of the Bay of Pigs and National Security Action Memorandum (NSAM) 57 entitled "Responsibility for Paramilitary Operations," it was clear that policymakers intended to assign a much larger role in black arts to DOD.

Playing to the White House preoccupation with covert action, Taylor recommended to the 303 Committee of the National Security Council, which had policy oversight of covert action, that added emphasis be given to CIA action against North Vietnam. But he did not propose that it be carried out by the military and the White House did not buy Taylor's recommendation.

In January 1963 Taylor sent a team of senior officers, headed by the Chief of Staff of the U.S. Army, General Earl Wheeler, to Saigon to assess military and paramilitary requirements for Vietnam. On February 1, Wheeler submitted his findings to Taylor, who directed him to brief the President. The report called for expanded raids and sabotage missions against North Vietnam, which was just what the White House wanted to hear. However, it did not propose that DOD run this expanded effort. It was ambiguous on who should be in charge and stated that unconventional efforts would be coordinated with secret CIA activities.

National Security Action Memorandum 57,
“Responsibility for Paramilitary Operations”

(June 28, 1961)

... a paramilitary operation is considered to be one which by its tactics and its requirements in military type personnel, equipment, and training approximates a conventional operation. It may be undertaken in support of an existing government friendly to the U.S. or in support of a rebel group seeking to overthrow a government hostile to us. The U.S. may render assistance to such operations overtly, covertly or by a combination of both methods. In size these operations may vary from the infiltration of a squad of guerrillas to a military operation such as the Cuban Invasion. The small operations will often fall completely within the normal capability of one agency; the large ones may affect State, Defense, CIA, USIA, and possibly other departments and agencies.

... the Department of Defense will normally receive responsibility for overt paramilitary operations. Where such an operation is to be wholly covert or disavowable, it may be assigned to CIA, provided that it is within the normal capabilities of that agency. Any large paramilitary operation wholly or partially covert which requires significant numbers of militarily trained personnel, amounts of military equipment which exceed normal CIA controlled stocks, and/or military experience of a kind and level particular to the Armed Services is properly the primary responsibility of the Department of Defense with the CIA in a supporting role.

Taylor and the Joint Chiefs were still trying to pass the buck. Foot dragging continued for most of 1963. The chiefs finally directed PACOM to develop a plan. Because Admiral Harry Felt, Commander in Chief, U.S. Pacific Command (CINCPAC), had pushed for hit-and-run operations against the coast of North Vietnam, the command responded quickly and submitted OPLAN 34A to Taylor on June 17.

The draft plan remained in Taylor’s office for three months. Why the delay? Felt wanted to implement the maritime component but could not get approval. The summer passed without any action. Taylor approved OPLAN 34A on September 9 but again stalled the authorization process. He deliberated two and a half months before giving the plan to McNamara. Again, why the delay? The answer is twofold. First, Taylor was convinced that the special warfare was not necessary. He came out of the mainstream and believed in conventional warfare. Second, the foot-dragging revealed a desire to avoid the risk of failure. If the military did not take on special warfare, it could

not be blamed if anything went wrong like the Bay of Pigs.

Even after the White House authorized OPLAN 34A in January 1964, the military showed little enthusiasm for it. This crippled SOG as it was being formed. For example, the Joint Chiefs were unwilling to assign a general officer as commander. According to a declassified document on its origins, OPLAN 34A planners saw the organization as a supporting command—equivalent to a field force—under the control of COMUSMACV. Westmoreland had four supporting commands or field forces in Vietnam under his authority. They were designated I, II, III, and IV Corps, each commanded by a lieutenant general who assisted unit commanders in fighting the war.

If SOG was going to play the role of a supporting command, its chief had to be accepted by the Joint Chiefs of Staff and COMUSMACV. That never happened. The Pentagon leadership had no intention of assigning a general officer—not even of one-star rank—to such an organization. As a result, its chief was often in an impossible position in trying to act imaginatively and propose new covert initiatives.

Laos was not the only mission that lacked support in the Pentagon. SOG frequently lost in interagency confrontations with the Department of State and Central Intelligence Agency because neither Taylor nor Wheeler were prepared to fight a battle over requests which they thought were unimportant. For the Joint Chiefs, the matter was peripheral to the main effort in Vietnam. The White House had foisted it on the Pentagon. Grudgingly, they knew they had to put up with it, but that was all they would do. And at MACV, Westmoreland saw little value in SOG.

Westmoreland and SOG

In terms of experience and professional outlook, Westmoreland epitomized the mainstream Army. He entered West Point in 1932 and was graduated as first captain. During World War II he served in North Africa and Sicily before becoming chief of staff of the 9th Infantry Division and taking part in the invasion of Europe in 1944.

When Westmoreland became COMUSMACV in 1964 and began planning how to fight the war, it was not surprising that firepower and maneuver became the core elements of his strategy of attrition. He sent American soldiers on search-and-destroy missions throughout South Vietnam to kill, wound, or capture enemy troops faster than they could be replaced.

Westmoreland was aware of Washington’s fixation on escalating covert action, but he saw little benefit in it and didn’t confine his criticism



observe the Ho Chi Minh Trail, and they would count the number of coolies they saw marching down the trail but . . . they didn't know what the coolies were carrying. . . . What I'm really saying is it was a well intended effort and it did provide us with some intelligence. But the intelligence was not great; it wasn't going to win or lose the war.

He had the same opinion of SOG recon teams operating against the trail. The main mission was to infiltrate small teams into Laos and identify enemy troops, convoys, base camps, supply depots, truck parks, weapon caches, command bunkers, and related targets for tactical air bombardment. Westmoreland characterized these as an annoyance. SOG, he stated, blew up bridges, "but the enemy just went downstream, say maybe one or two miles, and they'd use another bridge."

Regarding actions up North, Westmoreland was blunt: "It was basically a waste of effort." He believed putting agents into North Vietnam was useless and played into enemy hands. Asked why this effort was not refocused to organize a resistance movement, the former COMUSMACV exclaimed: "That was a decision from Washington. . . . Lyndon Johnson would not be a party to broadening the war. And that was considered broadening the war."

Policymakers were alarmed that fostering instability in North Vietnam might cause China to intervene. They did not want a second Korea. In Westmoreland's mind SOG had no contribution to make: "It was a sideshow as far as the military was concerned. . . . The contribution was a kind of pinprick." Was there any role for SOG? He did not think so: "Not if you're thinking in terms of winning the war."

He conceded that Washington's many restrictions inhibited SOG. If things were different, if he had complete authority to use SOG, would its contribution have been more significant? After contemplating, Westmoreland answered: "Conceivably, but on the scale of maybe ten percent." He added that SOG activities took place in North Vietnam, Laos, and Cambodia, outside his area of responsibility. In the chain of command, these areas were under PACOM. "I never particularly made an issue of it—saying it should be my authority, not theirs, because in the final analysis SOG didn't amount to a damn. The impact of it was totally incidental."

A Theater Strategy

Westmoreland's remark about geographical limitations on his area points to another reason SOG was not integrated strategically. The way combat responsibilities were assigned in Southeast Asia thwarted a unified approach. There was no strategy for fighting the war. If there had been it

to those who planned and executed covert action. He also thought that the best and the brightest in the White House had an overblown and misplaced faith in what covert action could accomplish, in particular McNamara.

Westmoreland thought that the White House had misplaced faith in what covert actions could accomplish

What about SOG? Didn't it at least provide valuable intelligence on enemy activities on the Ho Chi Minh Trail, information that could not be obtained either through overhead photography or electronically breaking into North Vietnamese communication systems? Westmoreland offered his perspective in an interview with the author conducted in October 1997:

Well, it was helpful in that they were able to get a team of Special Forces people and put them on a hill where they could

would have consisted of several coordinated operational campaigns aimed at parts of the theater in which Hanoi carried out its own military efforts.

Campaigns focus on strategic objectives, and there must be a symbiotic connection between campaigns and military strategy. Strategy sets the focus for campaigns, and in turn all campaigns support the aims of strategy. This implies an interrelationship between policy, which is devised by the civilian decisionmakers, and military strategy and operational campaigns. Policy sets the goals that strategy seeks to attain. Campaigns are meaningful when consolidated into strategy.

The strategy for fighting in Vietnam was bereft of any such approach. Instead, disharmony was at play. Coordination and integration never occurred. In part, this resulted because there was

no unity of effort within the theater. The way that missions were divided offers a telling example. Westmoreland commanded forces in South Vietnam but exercised no authority outside its borders. Within his area of responsibility, he devised a strategy for fighting the communists. Although his concept of operations had to be cleared in Washington and supervised by PACOM, he determined how to fight the ground war. This approach found a receptive audience in the Joint Chiefs because it was quintessentially mainstream. There was little interference from PACOM.

CINCPAC technically exercised responsibility for the entire Southeast Asian theater of war from Honolulu. In reality, however, his primary role was command of both Navy and Air Force air assets conducting combat missions over Vietnam, Laos, and Cambodia.

SOG was an orphan in the chain of command because of the indifference of senior officers

Taylor in Vietnam with Harkins.



Courtesy, Special Collections, NDU Library

The two officers who served as CINCPAC between 1964 and 1972, Admirals U.S. Grant Sharp and John McCain, cleared all bombing operations with Washington. While Westmoreland did the same, he had more latitude in shaping his concept of operations, at least until the war turned sour in 1968. The bombing campaigns executed by PACOM received much closer scrutiny from Washington than the ground war. Part of the reason was that air operations were easier to depict. Most mornings there were easels in the offices of the Secretary and Deputy Secretary of Defense with a large schematic showing which targets had been struck in North Vietnam the previous night or which ones were proposed. There was no way to depict small unit engagements taking place in the South at the same time. The most intensely supervised aspects of the war were scrutinized so closely because the bombing campaign could be reduced to comic book terms.

Sharp and McCain had to contend with powerful ambassadors in both Laos and Cambodia. To harness the military as well as CIA, Kennedy had taken steps to empower his representatives to ensure that they were in charge of their assigned countries. Consequently, while Laos was critical to the North Vietnamese strategy, it was off limits to both MACV and PACOM.

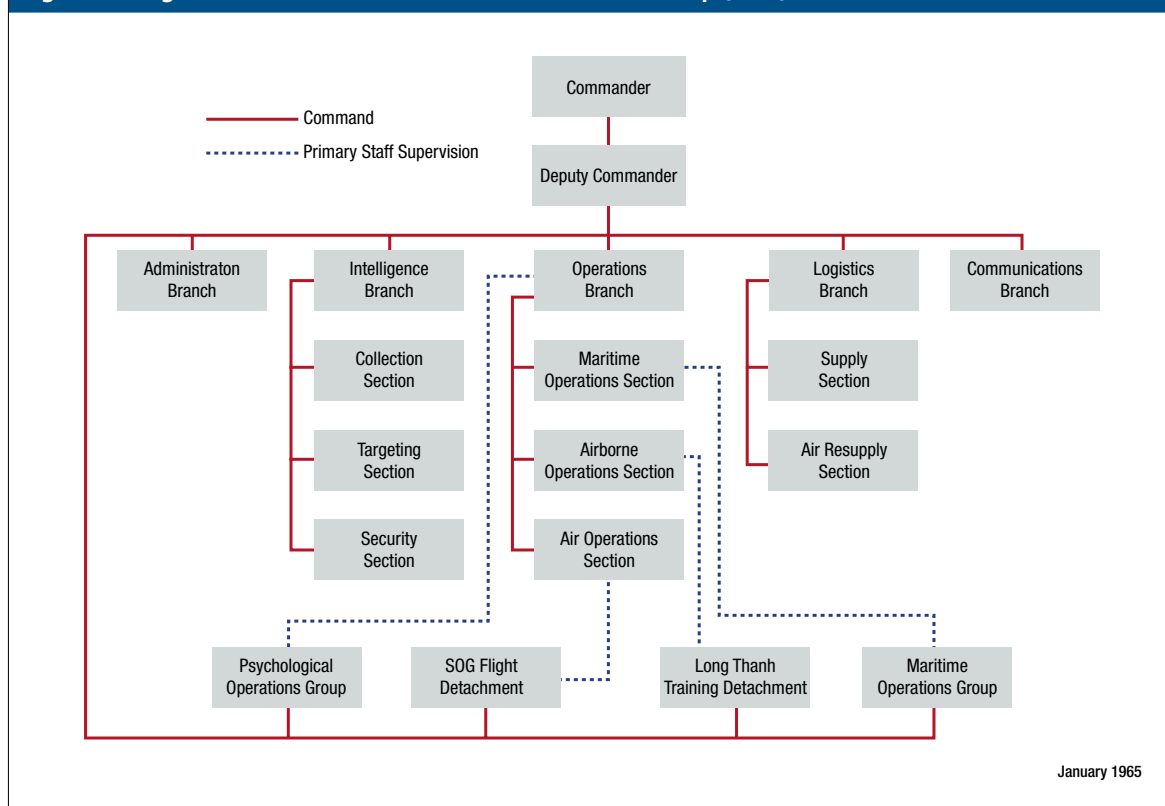
Equally important was the lack of interest in covert action on the part of PACOM. With the exception of Admiral Felt, who was CINCPAC during the first six months of SOG activity, there is no evidence that senior leaders in Honolulu paid much attention. Even in Felt's case, the interest was confined to covert maritime actions along the coast of North Vietnam. At the time, it was one of the few options available to the theater commander. When military involvement burgeoned in 1965, Sharp paid little attention to SOG. The war would now be fought the American way, with large conventional forces and strategy.

SOG was not just *persona non grata* with mainstream leadership in MACV and PACOM; it was an orphan in the chain of command because of the indifference of senior officers. None of the top generals or admirals in theater wanted it because they saw little value. SOG operations were not integrated into the U.S. military strategy for conducting the war.

Micromanagement

As it was being drafted in 1963, the Joint Chiefs assigned oversight of OPLAN 34A to the Special Assistant for Counterinsurgency and Special Activities (SACSA), who reported directly to

Figure 1. Organization of the Studies and Observation Group (SOG).



the Chairman. It managed the authorization and execution process for all SOG mission requests. However, the position was created to slow the administration's special warfare policy, not advance it. After SOG was established SACSA supervised all its activities from 1964 to 1972. Personnel from SACSA literally walked operational requests from SOG through a chain of command that ran all the way to the White House (see accompanying diagram). These authorization procedures were highly stovepiped. Normal bureaucratic intermediaries were bypassed in order to keep SOG covert activities secret and under tight control.

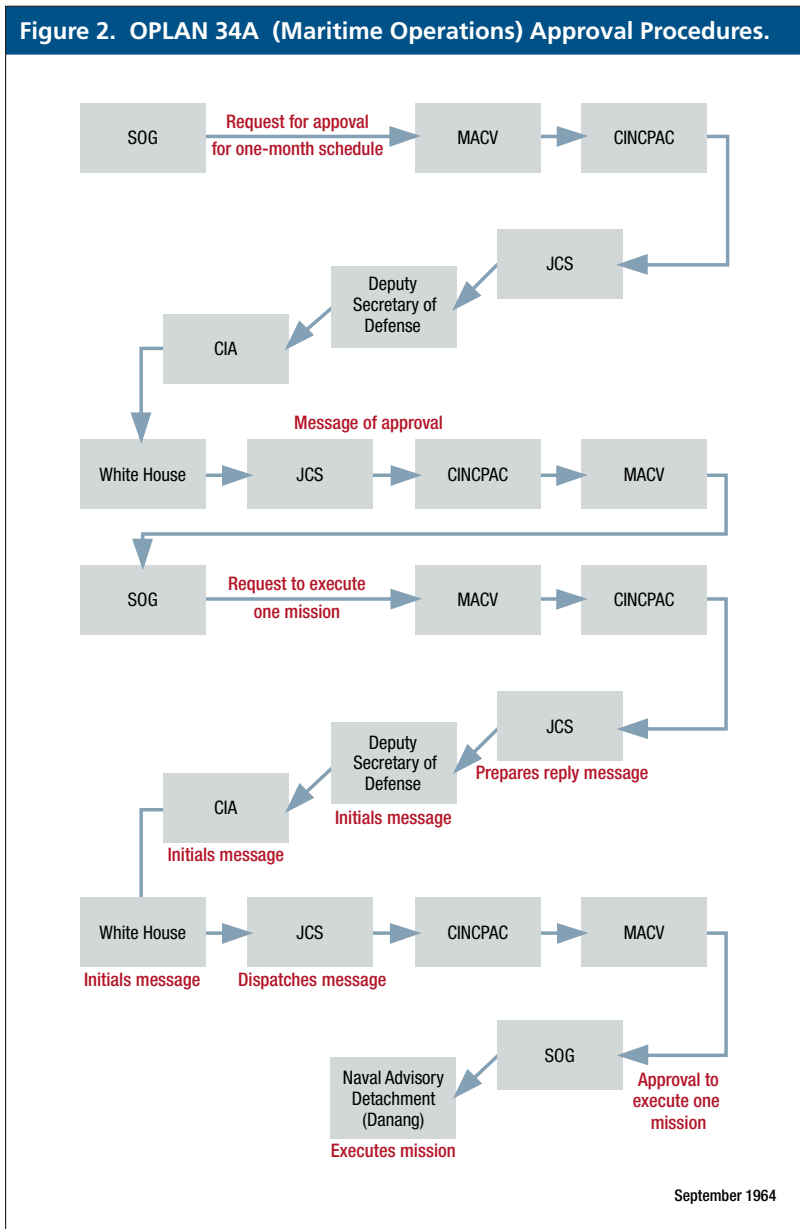
In 1964-65 only three officers in the Special Operations Division of SACSA were cleared to handle SOG matters. One of them was Commander William Murray. His assignment put them in direct contact with the Chairman, the Secretaries of Defense and State, and the National Security Adviser to the President.

The approval process for OPLAN 34A maritime operations was set forth by Cyrus Vance, Deputy Secretary of Defense, in a memorandum dated September 30, 1964. It reflects the general authorization procedures that were eventually applied to all SOG operational divisions. However, it

is not completely accurate. For example, the Central Intelligence Agency only became part of the oversight process in late 1965, when SOG initiated operations on the Ho Chi Minh Trail in Laos. The agency was not part of the authorization procedures for other SOG operational divisions.

How this process worked cannot be gleaned from a diagram. It must be seen through the eyes of SACSA action officers. Murray recalled during an interview in October 1997 that requests for authorization to execute missions "usually arrived through a very restricted crypto system with distribution only to SACSA." The request would be turned into a Joint Staff "paper with limited distribution to only certain officials. . . . All of this was accomplished in an incredibly short time when compared to other routine Joint Chiefs of Staff papers." When approved by SACSA, the request was sent directly to Wheeler. Having reviewed it, the Chairman might initial the request on the spot or take it to the chiefs for review before signing off. Once initialed the request was walked to either McNamara or Vance for review. Murray recalled that, far from being a restraint, McNamara was very enthusiastic about SOG. However by the end of 1964 he appeared to have lost some of his zeal for covert action, and Vance replaced him in the

Figure 2. OPLAN 34A (Maritime Operations) Approval Procedures.



authorization chain. As DOD representative to the 303 Committee, which had oversight responsibility for covert action, Vance had dealt with SOG.

After McNamara or Vance initialed the request, Murray would go to Secretary of State Dean Rusk. Once Rusk signed it, Murray went to the National Security Adviser to the President, McGeorge Bundy, who usually asked a few questions and initialed the request. But the process did not always end there. On several occasions Bundy told Murray to return to the Pentagon while he got approval from the President. In light of what is known about Johnson's micromanagement of the war, it is no surprise that he involved himself in SOG.

The fact that SOG had no patron higher than SACS within the Pentagon was a serious obstacle. All too frequently SACS was the loser in the interagency fights with the Department of State and the Central Intelligence Agency. SACS may have become an advocate for SOG, but it was a weak player in Washington politics. In those clashes it could not call on the real power brokers to back it up. The Chairman and Joint Chiefs knew how to do battle in the policy arena, but they were not about to do it for SOG. Its operations were just not important enough. **JFQ**

This article is an edited and abridged version of chapter 7, "The Great Divide: SOG and U.S. Military Strategy," in *The Secret War Against Hanoi: Kennedy's and Johnson's Use of Spies, Saboteurs, and Covert Warriors in North Vietnam* by Richard H. Shultz, Jr., (HarperCollins, 1999) and is printed with permission of the author and publisher.

Secretary Cohen briefing defense budget.



WHY NO TRANSFORMATION?

By ANDREW F. KREPINEVICH, JR.

Given the enthusiasm for transformation, why does the Pentagon hew to a modernization plan that will leave the military on the near side of the coming transformational divide, prepared to address old challenges far better than those now emerging? There is no single source of the problem. Only by examining a range of factors can we draw tentative conclusions.

Success Breeds Complacency

Just ten years ago the Armed Forces won the Cold War, emerged victorious in a lopsided campaign in the Persian Gulf, and became the pre-eminent military in the world. This dominance, together with a defense

budget that dwarfs those of all other nations, has led some to conclude that only the United States is fiscally and technically able to effect a large-scale leap in military affairs. Thus, while paying routine lip service to transformation, the defense establishment has adopted the Wells Fargo approach to the problem: move in slow stages.

This gradualist approach worked during the Cold War when the threat was well known and technology progressed at a leisurely pace. But this condition no longer obtains. As leaders peer into the coming century, they confront dramatic challenges: electronic strikes against a blossoming information economy, precision attacks with smart weapons, large-scale use of

ballistic and cruise missiles, and war in space. Such developments will transform warfare—and require a transformed U.S. military.

Although the Pentagon has been slow to match the call for transformation with action, the American public has been generally indifferent to defense matters in one opinion poll after another. Consequently, some members of Congress appear more concerned over the economic implications of defense allocations in their districts than with national security. Furthermore, President Clinton has not provided significant leadership for transformation, let alone brought pressure to bear.

This inattention is regrettable since transforming any large organization often takes decades. Therefore the military finds itself in a race against time to effect a transformation more quickly than competitors can acquire

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F-15s awaiting departure to Turkey for Northern Watch.

1st Combat Camera Squadron (Jack Braden)

not even be forced to leave their snug corporate cubicles. Traditional warriors will always be essential, but as transformation proceeds they are likely to increasingly rely upon—and in some cases be displaced by—distinctly non-warrior elements. If history is any guide, the combat culture will prove reluctant to accept a growing role for such nontraditional warriors.

Short Tenure of Senior Leaders

Military innovations and transformations in the United States during this century have been largely characterized by support from senior leaders whose tenure was typically longer than those of today. This makes sense since revolutions occur over many years. Admiral William Moffett, who headed the Bureau of Aeronautics during the early years of naval aviation, served in that post from 1921 to 1933. Admiral Hyman Rickover, father of the nuclear program in the Navy, led that effort for several decades. General Hamilton Howze, the leader in creating the only new division in the Army over the last half century—the Airmobile (Air Assault) Division—served in positions directly related to air mobility for nearly a decade.

Individuals also matter in transformations. The choice of General Hans von Seeckt to head the German army following World War I, as opposed to General Walter Reinhardt, was crucial to *Reichwehr* development of *Blitzkrieg*. General von Seeckt had a vision of military transformation centered on elite, highly mobile forces while Reinhardt believed static warfare would dominate in a future conflict as it had on the Western Front. Moreover, von Seeckt served for seven years in his position, allowing time for his vision to take root.

Had Admiral Jackie Fisher not been First Sea Lord from 1904 to 1910, it is doubtful the Royal Navy would have moved so aggressively to divest itself of 150 ships of the passing military regime while moving ahead with *HMS Dreadnought* and fast battle cruisers, dramatically changing Britain's forward presence.

asymmetric means capable of defeating the American way of war. What is missing is a sense of urgency.

Refighting the Last War

Lacking a clear challenge militaries can fall into the trap of anticipating that the next war will resemble the last. Unlike other large competitive organizations, the U.S. military obtains feedback on effectiveness rather episodi-

preparing to refight the last war is seductive because it presents an illusion of certainty

cally. Its last major conventional war data point was the Gulf War in 1991. The natural tendency is to baseline performance against the Gulf experience. Much of the wargaming that supported the Bottom-Up Review in 1993 and the more recent Quadrennial Defense Review (QDR) was oriented toward contingencies such as the Persian Gulf and Korean peninsula.

Depending on a ten-year-old conflict to determine force structures for future contingencies seems unlikely to provide the insights needed for transformation. This is particularly true in power projection, where traditional methods of deploying land and air forces through ports and airfields

is certain to be held at risk by the proliferation of satellite services and missile technology.

Preparing to refight the last war is seductive because it presents an illusion of certainty. It does not challenge existing service cultures: armored combat on land, carrier battle groups at sea, and tactical fighters in the air. Yet if some observers are correct, it will be extremely difficult to rapidly deploy heavy Army forces to threatened regions. And it will be hard to move large surface com-

batants through narrow choke points such as the Strait of Hormuz or base short-range tactical aircraft in those areas. In short, service cultures will be eroded as the transformation occurs.

Nor does the promise of a revolution in military affairs make the warrior class necessarily comfortable. Satellites so critical for military operations, for example, are controlled by personnel in air conditioned rooms located thousands of miles from trouble spots. This revolution is likely to place ever greater emphasis on unmanned aerial vehicles and less on manned cockpits, threatening the prevailing culture of the Air Force. Information warriors who defend electronic infrastructure while trying to undermine an enemy could be seconded from Silicon Valley, and may



Marines in attack during exercise, Twentynine Palms.

2nd Marine Division, Combat Camera Unit (Andrew T. Thornton)

commentary

Today the opportunity to institutionalize a process for change is more elusive. Senior officers shuttle from one assignment to the next, completing touch-and-go tours in one or two years. Four years is the maximum time an officer can serve as Chairman or service chief. Thus leaders barely have time to enunciate a vision of transformation, let alone institutionalize a process to achieve it. Short tenures also stress near-term problems and solutions. Most people are naturally concerned that nothing goes wrong on their watch. They also want to point to clear accomplishments when they depart. One suspects they are loath to start something whose fate will depend upon the good will of their successors.

Antiquated Tools

Most analytic methodologies for determining military requirements were developed during the Cold War, including wargame models which influenced QDR deliberations. Some models are highly limited in their ability to incorporate the information dimension of

warfare, which is helping to drive the need for military transformation.

Reflecting their Cold War heritage, these models tend to emphasize attrition (as opposed to maneuver) warfare and linear operations along

whereas generating maximum near-term efficiencies may be realized by assuming away uncertainty, it risks planning for the wrong future

well-defined front lines—characteristic of the sort of operations that many anticipated twenty years ago if war erupted between the Warsaw Pact and NATO. But many no longer see future war resembling these operations and view legacy models as unhelpful at best and likely counterproductive. In short, current models with their focus on past forms of warfare are biased toward traditional operations and are barriers to transformation.

To determine requirements, the Department of Defense also continues

to place great reliance on systems analysis, which was instituted by Secretary of Defense Robert McNamara in the 1960s. Systems analysis emphasizes cost-effectiveness to arrive at the most efficient solutions. It focuses on the six-

year period covered by the Future Years Defense Plan. This approach may have worked when the threat was immediate. But the twin geopolitical and military-technical revolutions that are the basis for transformation have led to higher levels of uncertainty for military planners. Whereas generating maximum near-term efficiencies may be realized by assuming away uncertainty, it risks planning for the wrong future.

Simply put, a defense plan that is very efficient for a specific future may produce a very ineffective military if that future does not materialize. The Maginot Line, which France built in

the interwar period, might have been both an efficient and an effective use of defense resources had the static trench warfare of World War I dominated in 1940. But when it became clear that *Blitzkrieg* was the future, and not *redux* of the Western Front, the French were left with no viable alternatives against the German onslaught. Today, systems analysis may help determine an efficient mix of the tactical aircraft in the Pentagon modernization planning, which is based primarily on Gulf War-era contingencies. But as currently practiced, it may not capture the uncertainties of the longer term, or post-transformation, competitive environment. As the threat to forward bases increases, the value of tactical aircraft—expected to remain in the inventory for decades—may depreciate rapidly, thus leaving the Armed Forces with relatively ineffective air forces.

Training and Budget

Field exercises are the ultimate wargame, approximating the experience of war as closely as possible. Past exercises were critical to transformation. The Navy could not have developed the principles of carrier battle group operations without the fleet problems undertaken during the 1920s and 1930s. Germany, in perfecting *Blitzkrieg*, relied on field experiments. Moreover, after its disarmament following World War I, the German army carefully studied field experiments by other militaries, especially the British, while secretly testing tanks and aircraft in the Soviet Union.

Unfortunately, U.S. field exercises are rarely joint and typically not concentrated on post-transformation operational challenges, such as projecting power in the absence of forward basing. In addition, as one commander observed, they are often conducted to validate accepted operational practices, not to experiment with new ways to fight. U.S. Joint Forces Command is responsible for joint experimentation. Its ability to focus experiments on the post-transformational challenges outlined above and to translate results into changes in defense funding remains to be seen.

Air defense artillery in Alaska, Northern Edge 2000.



354th Communications Squadron (Mark Bucher)

The FY00 defense budget of \$289 billion may seem adequate to support transformation at minimal risk to near-term readiness. It far exceeds that of any other nation, and by some measures exceeds the budgets of all other great powers combined. Yet transformation is linked to the shape of defense investments as well as their magnitude. France led Germany in expenditures for most of the interwar period. Yet Germany transformed its military to execute *Blitzkrieg* and vanquished France in six weeks. The Depression constrained naval developments in the United States during the same period. Nevertheless, the Navy laid the groundwork for the carrier-dominated battle fleet while Japan accomplished a comparable feat with an industrial base that was less than one-fifth the size of America's. Sadly, current budget debates frequently revolves around the question of how much is enough to sustain a smaller but similar defense program. A more important question is how wisely investments are being made to transform for very different security challenges.

The budget problem is being aggravated by volunteer's dilemma, a result of a program that cannot be sustained by current and projected budgets and a national security leadership that favors near-term capability over long-term readiness. To resolve

this mismatch modernization funds have continually shifted to current operations. This undermines service efforts at transformation. When the Navy volunteered to drop below authorized fleet size in 1994 in order to free funds for future capabilities, officials skimmed off much of the anticipated savings to reduce budget shortfalls.

This lesson was not lost on senior leaders. When it came time for QDR, the chiefs quickly realized that the process was primarily a budget-cut drill intended to balance the program-budget mismatch. Consequently, the services sought to protect their existing programs and forces rather than risk their budget share by reducing near-term capabilities for transformation. Given this incentive, it is no wonder that the QDR process produced very little innovation. Of course, should senior leaders themselves attempt to restructure the budget to support transformation, they would likely face resistance from the Office of Management and Budget and ultimately the congressional authorization and appropriation process. Yet the President as Commander in Chief and Congress in its role of supporting the Armed Forces have clear responsibilities to nurture the transformation for which they have been calling.

Defense Acquisition

With few exceptions, the defense acquisition system is oriented on Cold War, large-scale, serial production. Yet successful military transformation over the last century was characterized by avoiding system *lock in* during periods of rapid technological progress and high uncertainty while promoting *wildcatting*. The former term refers to buying large quantities of long-life equipment whose value may decline rapidly during a shift in military regimes, such as battleships during the interwar era. The latter pertains to broad experimentation with limited levels of emerging systems to identify their prospective value in the post-transformation regime, such as the four classes of carriers (but only six carriers in all) the Navy built in the interwar years, and the sixty-plus types of attack aircraft the Army Air Corps experimented with during the same period.

Certainly buying in bulk keeps unit costs down, important for a force structure too large for the modernization planned by the Pentagon. Correspondingly, canceling any new system with its substantial research and development costs is anathema to the services. Indeed, program managers are evaluated primarily on their ability to move systems into large-scale production. This produces bias against the kinds of risks that lead to innovation as opposed to safe design choices. Thus the incentives to reduce costs, while laudable, can undermine transformation by limiting wildcatting and promoting lock in.

The ability of the acquisition system to support transformation also suffers from a shift in the size and nature of the industrial sector which sustains it. When the demand for defense products declined dramatically as the Cold War ended, the industrial base was left to consolidate under what was, until recently, the *laissez-faire* attitude of the Pentagon. Consolidation has greatly reduced suppliers and bidders. For example, only two major aircraft manufacturers remain to compete for defense contracts. Fewer competitors, combined with a preference for relatively small numbers of systems in great

quantities, does not augur well for innovation, let alone transformation.

The Planning Process

A vision of a dramatic military shift must be supported by action. Yet the DOD process for developing strategy and translating it into planning guidance, and shaping programs and budgets, is broken. The planning, programming, and budgeting system—logical in theory—has declined to little more than an annual budget drill. Defense Planning Guidance is routinely produced too late and also is generally ignored. Its planning scenarios typically reflect a linear extension of cur-

rent contingencies instead of the transformed environment envisioned by the Secretary of Defense and Joint Chiefs of Staff. The inability of this guidance to influence resource allocation is reflected in service budget shares, which have remained astoundingly stable over the last forty years despite changes in strategy, technology, and the geopolitical environment.

Efforts to remedy this problem have encountered limited success. The Joint Requirements Oversight Council, designed to compete programs across service boundaries and emerging mission areas (such as information warfare), has not had an impact on allocation. The Goldwater-Nichols Act of 1986, while promoting jointness, also strengthened the role of unified commanders in chief at the expense of the services. But CINCs, who deal with real threats, have a relatively short-term focus compared to the services, which are responsible for the long-term training and equipping of forces. Ruminations on Capitol Hill over the need to enact Goldwater-Nichols II are indicative of the belief that the process is most in need of change, not the people in charge or budget allocations.

Though formidable, barriers to transformation are not insurmountable. Encouraging signs include a growing interest on the part of Congress. The Chairman has responded to

congressional pressure for joint experimentation by assigning that responsibility to U.S. Joint Forces Command. The Senate Armed Services Committee has created a new Subcommittee on Emerging Threats and Capabilities, partly to monitor progress on transformation. There is also some bipartisan coalition-building for examining a fundamental restructuring of strategic planning, programming, budgeting, determination of requirements, training, and command structure.

Despite the Clinton administration pledge of more funding, a continuing mismatch between the defense program and budget could produce

planning scenarios typically reflect a linear extension of current contingencies instead of the transformed environment envisioned by the Secretary and Joint Chiefs

dramatic change. The Pentagon shortfall, at some \$40 to \$50 billion over the *Future Years Defense Plan*, will likely balloon to \$25 billion per year in the longer term. Readiness shows signs of slipping and force modernization plans are unrealistic. Yet neither political party seems inclined to tap into projected surpluses to provide major funding. Future budgets may not sustain business as usual in the defense posture, offering opportunities to recast the force.

There appears to be general agreement on the need to transform the military from the kind of force that won the Cold War and Persian Gulf War. Yet despite assertions to the contrary, this consensus has not been translated into a supporting program. The causes for a disconnect between words and deeds are varied but are primarily of the defense establishment's own making. Though there is growing support in Congress for change, the critical mass needed to effect it has not been achieved. A new administration may provide the impetus for transformation, but such leadership is hardly assured. Thus one can only conclude that absent a strong external shock, surmounting the barriers will prove a long and arduous process.

JFQ

Admiral Elmo Russell Zumwalt, Jr.

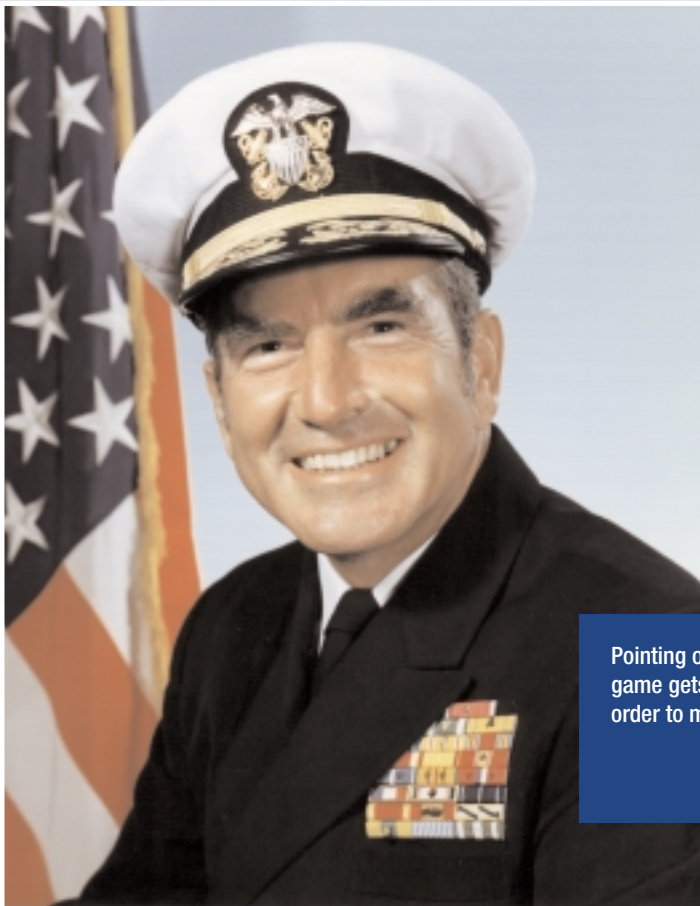
(1920–2000)

Chief of Naval Operations

VITA

Born in San Francisco, California; graduated from Naval Academy (1942); served on *USS Phelps* and *USS Robinson* in Pacific during World War II; sailed Japanese gunboat *Ataka* up Yangtze and Whampoo Rivers to spearhead occupation of Shanghai; executive officer, *USS Saufley* and *USS Zellars* after war; professor of naval science, University of North Carolina; commanded *USS Tills* in early 1950s and, during Korean War, served as navigator, *USS Wisconsin*; student, Naval War College; headed Shore and Overseas Section, Bureau of Naval Personnel (1953–55); commanded *USS Arnold J. Isbell*; served in Bureau of Naval Personnel; executive assistant and senior aide to Assistant Secretary of the Navy for personnel and

reserve forces; commanded *USS Dewey* (1959); student, National War College (1961–62); executive assistant to Secretary of the Navy (1963–65); at age 44 youngest officer promoted to rear admiral; commanded Cruiser-Destroyer Flotilla Seven (1965–66); established Division of Systems Analysis in Office of the Chief of Naval Operations (1966–68); Commander, U.S. Naval Forces, and Chief of Naval Advisory Group, Vietnam (1968–70); Chief of Naval Operations (1970–74); President, American Medical Buildings, and Chairman, International Consortium for Research on Health Effects of Radiation; awarded Presidential Medal of Freedom (1998); died at Durham, North Carolina.



Naval Historical Center

Pointing out your own service's deficiencies to get more money is the fair way the game gets played in the Tank. . . . However, praising the other fellow's service in order to make your own appear more needy is dirty pool.

—From *On Watch: A Memoir* (1976)

Organization

UNIFIED COMMAND PLAN

The Secretary of Defense recently announced changes in the unified command plan (UCP) which provides guidance to unified commanders; establishes missions, responsibilities, and force structure; delimits areas of responsibility; and specifies the duties of functional commanders. The new plan, which became effective on October 1, 1999, included the following changes:

- Assigns Moldova, Ukraine, Belarus, Georgia, Armenia, Azerbaijan, the Black Sea, and the Sea of Azov to the area of responsibility of U.S. European Command.
- Assigns Turkmenistan, Uzbekistan, Kazakhstan, Kyrgyzstan, and Tajikistan to the area of responsibility of U.S. Central Command.
- Identifies U.S. Joint Forces Command (JFCOM) as the successor to U.S. Atlantic Command (ACOM), with a mandate to provide forces with joint warfighting training and experience, leverage lessons learned in real and training scenarios, and recommend changes to joint doctrine to improve warfighting capabilities.
- Assigns JFCOM the responsibility for providing military assistance to civil authorities for consequence management of weapons of mass destruction incidents within the continental United States and its territories and possessions. To fulfill that mission, a standing joint task force for civil support under JFCOM will plan and integrate DOD support to the lead Federal agency for consequence management during incidents. The standing JTF will be commanded by a two-star Reserve general/flag officer, with a small headquarters staff.
- Assigns the military lead for computer network defense to U.S. Space Command.
- Transfers selected water areas off Africa and Europe from U.S. Atlantic Command and U.S. Pacific Command to U.S. European Command.

Moreover the new plan contained a non-binding classified enclosure (UCP 21 Vision) outlining a flexible and evolutionary path for UCP revisions to accommodate changes in the anticipated threat environment. **JFQ**

BATTLE LABS

A senior steering group representing the services recently met to evaluate experimentation methods for joint warfighting. Hosted by the Joint Experimentation Directorate, U.S. Joint Forces Command (JFCOM), the meeting reviewed efforts to conduct joint experiments and transform joint operations. Toward that

end, 24 service battle laboratories and JFCOM have organized the Alliance of All Service Battle Laboratories to link labs and experimentation agencies which will share innovations. The alliance will promote debate and analysis of warfighting experimentation. Labs will take advantage of unique service capabilities and identify opportunities for collaboration and the steering group will determine which partnerships offer the greatest potential. The alliance plans further meetings and another senior steering group meeting is scheduled for May 2000.

JFCOM serves as the DOD executive agent under the Chairman for joint experimentation with a mission of creating and exploring new concepts as well as planning, designing, preparing, and assessing a program of joint warfighting experiments to enhance future capabilities. **JFQ**

Doctrine

JOINT FORCES COMMAND

Among the recent changes in the unified command plan (UCP), additional responsibilities for developing joint doctrine were assigned to U.S. Joint Forces Command (JFCOM), which is tasked to support the joint doctrine program by making recommendations on development, assessment, distribution, and maintenance of joint publications. The Joint Staff will promulgate program directives for joint doctrine and joint tactics, techniques, and procedures (JTTP), act as the review authority, forward doctrine for signature, and manage above-the-line titles.

The Joint Warfighting Center (JWFC) is tasked with facilitating the conceptualization, development, and revision of publications, analyzing proposed or approved publications, developing a mechanism to link assessments to doctrine, and coordinate or develop signature-ready below-the-line publications. Although the doctrine division of JWFC also will respond to JFCOM issues and priorities, it will continue the traditional role of honest broker through doctrine analysis, assessments, coordination, and exercise support. JWFC will be more involved in resolving contentious issues, but no authority has been transferred. **JFQ**

TECHNOLOGICAL INITIATIVES

The Doctrine Networked Education and Training (DOCNET) initiative is an Internet-based distance learning program that provides instruction formerly available only in residence. There are ten DOCNET modules at <http://www.dtic.mil/doctrine/tointer.htm> with a total of 32 planned for the end of 2001. This educational effort enables members of both the active and Reserve components to access doctrine without entering the classroom. The modules include interactive animation, case studies, video supplements, and self-testing on subjects such as operational art, joint fire support, and military operations other than war.

In addition, the Joint Staff has released a state-of-the-art interactive wargame on joint force employment. Issued on CD, it includes a six-phase crisis action planning process that runs from situation development through to execution. Players take on the role of a joint force commander and learn to apply joint doctrine in various conflict scenarios. The game enhances understanding of joint doctrine through exercises that challenge players to achieve the assigned mission. It tests knowledge and conducts a virtual joint operation employing doctrinal principles. It also contains ten baseline scenarios—plus four modifiable scenarios—which cover a range of military operations with extensive feedback at the end of each scenario. The practical application includes the ability to modify force parameters using an unlimited number of operational conditions. Some 6,500 copies of the wargame have been distributed to the services and unified commands (local reproduction of this CD is authorized). **JFQ**

DEPLOYMENT PUB

Although one usually thinks of high tech weapons in weighing combat power, the ability to project forces around the world is essential when wielding the military instrument. Joint Pub 3-35, *Joint Deployment and Redeployment Operations*, provides guidance and principles on deployment and redeployment from peace to conflict situations.

This volume differs from most other joint pubs in that it provides guidance not only to the staff of the supported command, U.S. Transportation Command, and joint force commanders, but

(continued on page 106)

The Joint Publication System

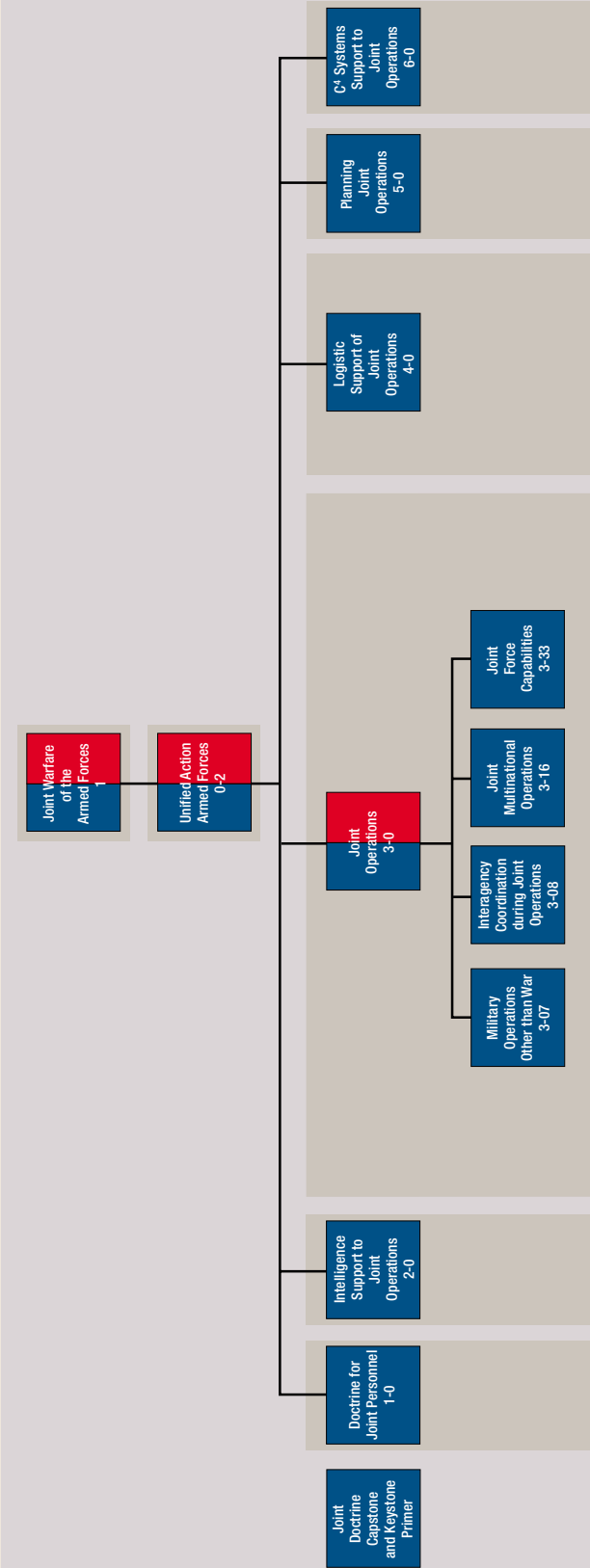


Doctrinal Taxonomy

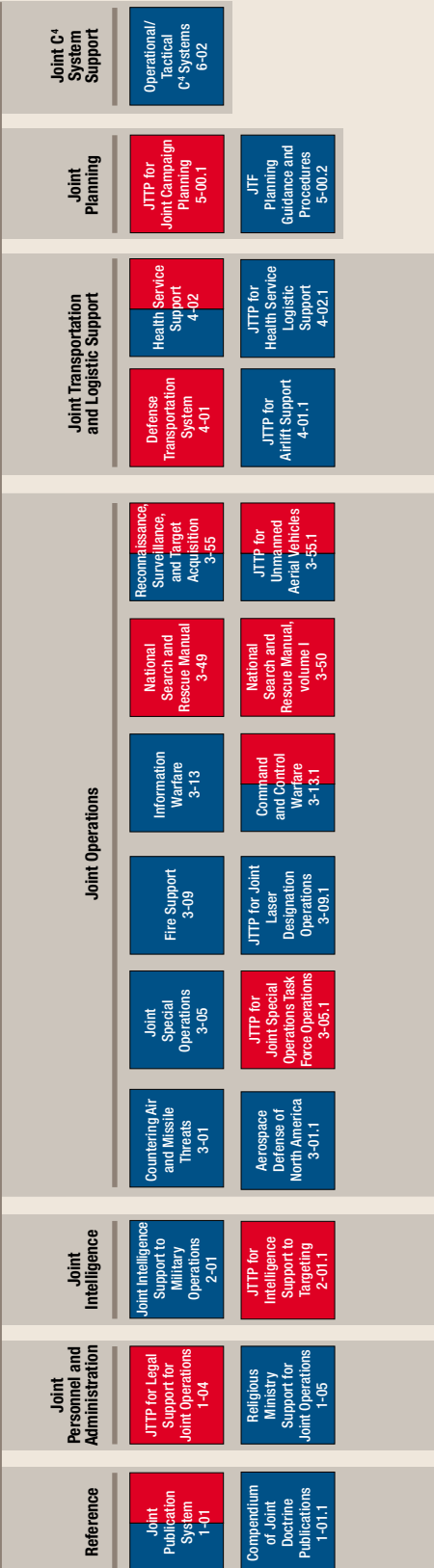
This hierarchy of publications provides a framework for joint doctrine and for joint tactics, techniques, and procedures (JTTP). It is organized along traditional joint staff lines of responsibility. The first numeral identifies the functional field of a publication. The second numeral—preceded by a hyphen—places a pub in a given field (with a zero-digit designating the keystone pub in the series within any given field). The third numeral—preceded by a period—indicates pubs which furnish supporting or expanded joint doctrine or JTTP.

JFQ

CAPSTONE AND KEYSTONE DOCTRINE



SUPPORTIVE DOCTRINE AND



JOINT TACTICS, TECHNIQUES, AND PROCEDURES

JTP for Patient Movement 4-02.2	Joint Bulk Petroleum 4-03	Civil Engineering Support 4-04	Mobilization Planning 4-05	JTP for Reserve Component Callup 4-05.1	JTP for Mortuary Affairs 4-06	Common User Logistics 4-07	Multinational Logistics 4-08	Global Distribution 4-09
JTP for Sealift Support 4-01.2	JTP for Movement Control 4-01.3	JTP for Theater Distribution 4-01.4	JTP for Water Terminal Operations 4-01.5	JTP for Joint Logistics Over-the-Shore (JLOTS) 4-01.6	JTP for Use of Intermodal Containers 4-01.7	JTP for JRSOI 4-01.8		

Command and Control for Joint Air Operations 3-56.1	Civil-Military Operations 3-57	Civil Affairs 3-57.1	Military Deception 3-58	JTP for Meteorological/Oceanographic Support 3-59	Joint Targeting 3-60	Public Affairs in Joint Operations 3-61	Strategic Attack 3-70
National Search and Rescue Manual, volume II 3-50.1	Joint Combat Search and Rescue 3-50.2	JTP for Combat Search and Rescue 3-50.2.1	Evasion and Recovery 3-50.3	Electronic Warfare in Joint Military Operations 3-51	Joint Airspace Control in the Combat Zone 3-52	Joint Psychological Operations 3-53	Operations Security 3-54
JTP for Space Operations 3-14	Barriers, Obstacles, and Mine Warfare 3-15	JTP for Theater Airlift Operations 3-17	Forcible Entry Operations 3-18	Engineer Doctrine for Joint Operations 3-34	Joint Deployment and Redeployment Operations 3-35		
JTP for Close Air Support 3-09.3	Joint Rear Area Operations 3-10	JTP for Base Defense 3-10.1	NBC Defense 3-11	Joint Nuclear Operations 3-12	Joint Theater Nuclear Operations 3-12.1	Nuclear Weapons Employment, volume I 3-12.2	Nuclear Weapons Employment, volume II 3-12.3

Special Operations Targeting and Mission Planning 3-05.2	Joint Special Operations Operational Procedures 3-05.3	Joint Special Operations Targeting and Planning 3-05.5	Urban Operations 3-06	JTP for Foreign Internal Defense 3-07.1	JTP for Antiracism 3-07.2	JTP for Peace Operations 3-07.3	Joint Counterdrug Operations 3-07.4	JTP for Noncombatant Evacuation Operations 3-07.5	JTP for Foreign Humanitarian Assistance 3-07.6	JTP for Domestic Support Operations 3-07.7
Offensive Counterair 3-01.2	Defensive Counterair 3-01.3	JTP for Suppression of Enemy Air Defenses 3-01.4	Joint Theater Missile Defense 3-01.5	Amphibious Operations 3-02	Landing Force Operations 3-02.1	Amphibious Embarkation 3-02.2	Joint Interdiction Operations 3-03	JTP for Shipboard Helicopter Operations 3-04.1		

JTP for Counter-Intelligence Support 2-01.2	JTP for Joint Intelligence Preparation of Battlespace 2-01.3	National Intelligence Support to Joint Operations 2-02	JTP for GGSS to Joint Operations 2-03
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Financial Management during Joint Operations 1-06	DOD Dictionary of Military and Associated Terms 1-02	Historical Collection	Encyclopedia
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Abbreviations
 C4 — command, control, communications, and computers
 GGSS — global geospatial information and services support
 JRSOI — joint reception, staging, onward movement, and integration
 JTF — joint task force

Legend

[Blue Box]	approved
[Red/Blue Box]	under revision
[Red Box]	under development
[White Box]	pending development

Total 112 joint doctrine publications

Tracking the Process
 A *Common Perspective*, a newsletter published by the Joint Warfighting Center (JWFC) is a useful source for tracking joint doctrine development. This periodical can be accessed at http://www.dtic.mil/doctrine/el/comm_per/comm_per.htm.

(continued from page 103)

also to other members of the Armed Forces with deployment responsibilities. The first half is addressed to decision-makers at the highest level, providing overarching guidance on roles, duties, and relations for both major commands and Federal agencies (such as the Departments of State and Transportation and U.S. Postal Service) which are involved in deployment and redeployment. The balance of the book is valuable to those who exercise deployment responsibilities. Chapter III has specifics of planning and executing deployment while chapter IV covers redeployment. Chapter V considers enablers—processes, systems, and equipment—that facilitate mission accomplishment, such as the global decision support and the joint flow and analysis systems. Chapter VI discusses multinational efforts and operations other than war and chapter VII covers joint training, exercises, and assessments and their relation to national military strategy and the universal joint task list.

The appendices provide a primer on deliberate and crisis action planning and process maps of deployment and redeployment and joint reception, staging, onward movement, and integration. They also contain information on time-phased force deployment data refinement and maintenance, illustrations of deployment and redeployment orders, and a glossary of terms. **JFQ**

Lessons Learned

JOINT EXERCISES

The Operational Plans and Interoperability Directorate (J-7) of the Joint Staff administers assessments of preparedness by observing joint exercises and joint task force operations conducted under the sponsorship of the Chairman and unified commanders. Assessments carried out during fiscal year 1999 engaged almost every theater and observed a range of exercises.

One common thread ran through these assessments. Command, control, communications, and computer (C⁴) architectures were not fully integrated, but were overburdened and vulnerable to kinetic or computer attack. Moreover, systems were seldom fully interoperable with coalition partners and at times were incapable of being linked to national or CINC support systems. In addition, C⁴ systems were underfunded and undermanned.

The evolution of joint and service-unique global command and control systems (GCCS) is an illustration of the difficulty of integrating even a relatively well funded and universally accepted system. Although battle tested and an improvement over its predecessor, GCCS has yet to realize its full potential. Exercises demonstrate that users have adopted shortcuts, modifications, additions, and work-arounds that can negatively impact the system at large.

Some commands have properly initiated change, focusing on improvements at the local and holistic levels. During Global Guardian, observers chronicled planning by U.S. Strategic Command for a flexible, automated status of forces reporting system. The plan not only included developing elements for the CINC and his staff, but a protocol for ensuring the system would be compatible.

While established systems can operate with some degree of success when cohesive and long standing allied relations are established, the fact is that the next crisis is likely to occur when such a system is not in place. Joint task force (JTF) headquarters can bear the brunt of the expeditionary challenge since they must reconcile a number of issues under stressful, time-critical circumstances. Though the services have made great strides in developing and fielding a separate, deployable C⁴ element, forces do not have a comprehensive C⁴ suite optimized for the JTF expeditionary environment. In addition, JTFs are often largely made up of augmentees, drafted at the last moment and at times poorly qualified for the task at hand. Hence a good deal of on-the-job training is required in almost every exercise and JTF.

Inadequate commonality among the services and personnel shortfalls are also exacerbated by the lack of standardization with alliance partners. Such systems are further modified to optimize interaction between U.S. and allied forces. Ironically, modification all too often renders the system less compatible or inoperable with other U.S. systems.

The lack of joint standards for web based technologies complicates command and control. Such standards support activities including data transfers, command post connectivity, intelligence distribution, message handling, and distribution. Their absence often adds an unnecessary training and familiarization load. Until standards are developed and adopted, CINCs use locally developed guidelines, a solution which is at odds with a fully integrated, worldwide information network.

Implementing information operations with advanced technologies also emerged as an area of concern. Standards have been developed and are being integrated into the toolkits of the unified commands. But in many cases personnel and other assets are unavailable to develop meaningful programs, and work-arounds that depend on manual methodologies and techniques are being used. In addition to resource constraints, many warfighters in the field and fleet are reluctant to fully rely on technology to drive information operations. Noncommissioned officers, action officers, and senior officers candidly expressed some reluctance during assessments to go too far with technology in the event that systems may fail when needed.

Despite some successes, the challenge is too great for any CINC or command to resolve. Exercise observations suggest that a renewed commitment to developing, funding, standardizing, and manning C⁴ systems is required. **JFQ**

Education

READING LIST

The following articles of interest to the conduct of joint operations have recently appeared in professional military journals:

■ Michael G. Dana, "The JIATF Fusion Center: A Next-Generation Operations Cell for Consequence Management," *Marine Corps Gazette*, vol. 84, no. 2 (February 2000), pp. 38–41. Proposes joint interagency task forces to integrate military, governmental, and nongovernmental organizations to support disaster relief.

■ L.P. James, "No Silver Bullet in Missile Defense," *U.S. Naval Institute Proceedings*, vol. 125, no. 12 (December 1999), pp. 39–43. Two views on ballistic missile defense, the attack operations school and the active defense school.

■ Edward Rhodes et al., "Forward Presence and Engagement Historical Insights into the Problem of Shaping," *Naval War College Review*, vol. 53, no. 1 (Winter 2000), pp. 25–61. Lessons learned on conducting effective regional engagement.

■ Robert J. Smullen, "Reinventing Fixed-Wing CAS," *Marine Corps Gazette*, vol. 84, no. 3 (March 2000), pp. 52–53. Adapting to technological changes in close air support.

■ David Mets, "Elephants and Blindness: Fodder for the Air Warrior/Scholar on the Gulf War," *Aerospace Power Journal* (Spring 2000), pp. 53–69. Recent scholarship on Desert Storm.

■ Ralph R. Steinke and Brian L. Tarbet, "Theater Engagement Plans: A Strategic Tool or a Waste of Time?" *Parameters*, vol. 30, no. 1 (Spring 2000), pp. 69–81. Ideas on a failed planning system. **JFQ**

RETHINKING THE YEARS AFTER TET

A Book Review by
DALE ANDRADÉ

A Better War: The Unexamined Victories and Final Tragedy of America's Last Years in Vietnam

by Lewis Sorley
New York: Harcourt Brace, 1999.
507 pp. \$28.00
[ISBN 0-1510-0255-5]

Summing up the situation, “there came a time when the war was won,” writes Lewis Sorley in *A Better War*. “The fighting wasn’t over, but the war was won.” Not by North Vietnam, but by the United States and South Vietnam. With this inimical comment, Sorley fires the first salvo in what is likely to become a contentious debate over the final four years of American military involvement in Vietnam.

Most accounts of Vietnam concentrate largely on the early period of the war, from the introduction of U.S. combat forces in 1965 to the Tet offensive in 1968. *A Better War* picks up in late 1968, after three events dramatically altered the course of the fighting. The first was

William Westmoreland, who had commanded U.S. Military Assistance Command, Vietnam (MACV) since 1964, turned the job over to his deputy, General Creighton Abrams. The third event was another change in American leadership, the election of Richard Nixon.

Both Nixon and Abrams heralded a different approach to the war. The former came into office with a secret plan to end the conflict and achieve peace with honor. Unlike his predecessor, Nixon was willing to widen the conflict to Laos and Cambodia. This seeming paradox made sense. By attacking enemy sanctuaries South Vietnam would gain breathing room to fight on its own against the North, a process called Vietnamization.

Abrams also brought about important changes on the ground. The conflict had two dimensions from the onset: main force or conventional conflict and the struggle for hearts and minds under the rubric of pacification. Westmoreland approached them separately and stressed the main force conflict. Abrams had a different idea. “I really think that, of all the things, [the pacification program] is the most important. That’s where the battle ultimately is won.” But Abrams also realized that pacification and Vietnamization could only succeed if conventional units destroyed communist forces or at least kept them at bay. Having watched Westmoreland fail to

rule, with several main force units annihilated. More important was the near destruction of the Viet Cong infrastructure, a shadow organization crucial to facilitating communist operations in the South. Crippling enemy control of the countryside left a vacuum that could be filled by pacification efforts. Recognizing this development, Abrams stepped up that dimension of the war.

Although Sorley rates the Tet offensive as a failure, the defeat did not represent a total disaster to the communist cause. In fact part of the success of the pacification program must be attributed to a change in Hanoi’s strategy rather than Abrams’s efforts. A year earlier pacification was difficult with or without Abrams. After Tet, in the spring of 1968, North Vietnam began to field smaller units and temporarily abandoned main force conflict, a shift outlined in a captured enemy document known as “Resolution 9.” Sorley portrays that decision as capitulation rather than retrenchment. Far from conceding defeat, however, the document reveals that the communists chose their strategy depending on the circumstances: guerrilla warfare when weak, conventional warfare when strong. And it often used both. Sorley may not recognize this shift, but Abrams surely did as evidenced by a remark which is quoted in *A Better War*. “[The enemy] is a resourceful fellow, and he is an intelligent fellow.



Abrams with Wheeler and McCain in Saigon, 1969.

Naval Historical Center

Tet. While this country-wide series of attacks is usually seen as the beginning of the end for America in Vietnam, it was a military defeat for Hanoi. A shift in the military hierarchy marked the second pivotal event. In June 1968 General

destroy the enemy with sweeps of the countryside, Abrams cut down the size of operations, concentrating on areas such as the border west of Saigon.

Tet facilitated Abrams’s efforts to redirect the war. The attacks across the South in January and February 1968 largely failed. The communists managed to take and hold one city—the old imperial city of Hue. Heavy losses proved the

And just as he changed from what he’d been doing before to another level . . . he’s doing the same thing again.” In other words, Hanoi was once again adapting to the situation on the battlefield.

While Sorley’s account begins with contending that Abrams pushed North Vietnam up against the wall in the South,

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the reality is that some of the largest battles lay ahead. In May 1969 the 101st Airborne Division fought a bloody showdown in the A Shau Valley at a place called Hamburger Hill. A year later American and South Vietnamese forces moved into Cambodia, followed nine months later by a foray against enemy base areas in Laos. Finally, after most American troops had gone home, Hanoi launched the Easter offensive of 1972, resulting in the biggest battle of the war.

With so much fighting yet to come, Sorley's declaration of victory detracts from serious analysis of events and their place in history. If America won, why did Saigon fall? The author calls on old excuses: meddling politicians, misguided media, and an uninformed public. Although there is some truth in that, it is well rehearsed. And a more vital question goes unanswered: what was won? It is difficult to argue that South Vietnam was becoming so strong by 1970 that it could actually have convinced Hanoi to stop fighting and live with the reality of two Vietnams. Yet Sorley asserts Washington could have ensured Saigon's survival by continuing military assistance as promised by Nixon and reinstating air strikes if North Vietnam violated the Paris Accords of 1973. America's precipitous abandonment of South Vietnam is a sordid story, but one has to ask how air strikes could turn the tide without U.S. advisors on the ground to guide them.

Sorley portrays this better war through the prism of MACV and Abrams. By using messages and recordings not previously available to researchers, he adds much detail to what is known about the conduct of the war's last years. Unfortunately he is so enamored with Abrams that he loses objectivity. Other players appear in black and white: Westmoreland's tenure is dismissed as "the earlier unproductive years" that continued to exert a "malevolent influence," embracing body counts and ignoring pacification. Both are oversimplifications. Although Westmoreland emphasized big-unit warfare, he initiated the pacification program. Sorley largely ignores the fact that Abrams learned much from Westmoreland's mistakes. Had Abrams been the commander in 1965 his legacy might have been different.

Sorley also lambastes Westmoreland for overly optimistic reporting on the war and then cites claims made by the Air Force to have virtually shut down the Ho Chi Minh Trail. He decries statistics as an indicator of success, but applauds the Hamlet Evaluation Survey, a complicated measure of government control of

the countryside, as evidence of progress in pacification. Moreover, he fails to mention Speedy Express, a controversial operation that combined body count and statistics. Between December 1968 and May 1969, units of the 9th Infantry Division claimed to have killed some 11,000 Viet Cong, though the Americans recovered only 750 weapons. It was alleged that the division falsified body counts and/or killed innocent civilians, issues that went to the heart of criticisms of the war's conduct.

Despite the image of Abrams in *A Better War* as totally distinct from Westmoreland, the facts appear otherwise. While Abrams played down big search-and-destroy operations, after action reports indicate many similarities. Under both commanders there are reports of Americans surrounding an enemy force, calling in air support and ground reinforcements, and then closing in only to find that most of the enemy had slipped away. It seems logical that the North Vietnamese were not hurt as badly as reported. And lest anyone think that the American toll was lower under Abrams, it bears remembering that over 9,200 died in combat during 1969, more than any other year except 1968.

As for the outcome, even if Sorley is correct about the success of Vietnamization, he disregards the factor of time. It is naive to believe that the military could or should have been allowed to fight indefinitely in an unpopular war. Such is the reality of a democracy. Sorley quotes John Paul Vann, a civilian advisor, who said: "Beyond 1972, the cost of the war will be drastically reduced and will eventually be manageable by the Vietnamese with our logistical and financial assistance." Sorley does not seem to sense any irony in Vann's conclusion that "I think the war will continue indefinitely." This is exactly what Congress and the American people had been debating since 1967. Public opinion would not abide the conflict forever, and even the best case offered by Abrams seemed like forever.

Westmoreland's intelligence officer, General Phillip Davidson, got it right when he wrote in *Vietnam at War*, "We did lose the war. Refusing to accept this defeat, or saying that we won the shooting war, may assuage our bruised egos, but it oversimplifies the conflict and distorts our understanding of its true nature." **JFQ**

THE WORLD WE FEAR

A Book Review by

ALVIN H. BERNSTEIN

Preventive Defense: A New Security Strategy for America

by Ashton B. Carter and William J. Perry
Washington: Brookings Institution Press, 1999.

243 pp. \$24.95

[ISBN 0-8157-1308-8]

Has the United States developed a set of strategic principles to guide defense and foreign policies in the wake of the Cold War? Some would say not. Yet in a book published just after the demise of the Soviet Union, *A New Concept for National Security*, William Perry, Ashton Carter, and John Steinbruner laid the foundation for what they believed a national strategy should include. Their vision presaged the current administration's policy of liberal internationalism, an approach to the post-Cold War world that revives the Wilsonian principles that dominated liberal thought before the Vietnam era.

This vision contains a strong moral belief in promoting democracy and opposing tyranny. It considers military action more defensible when used in the name of human rights and under the sanction of an international agency than when invoked unilaterally for traditional national interests. (How else does one explain liberal Democrat opposition in Congress to the Persian Gulf War but support for intervention in Kosovo?) It would avoid American unilateralism in a postwar situation when an enemy has been vanquished and no new threats loom on the horizon, because it envisions an opportunity to build multilateral institutions and establish new varieties of international collective security arrangements. Contemporary liberal internationalists anticipate that institutions such as the United Nations and the Organization for Security and Cooperation in Europe can someday deter aggression, extinguish regional conflagrations, and respond to humanitarian catastrophes.

Most who embrace this vision place great faith in arms control. Some see an opportunity, in a time of apparent global

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Secretary Perry in pursuit of mil-to-mil relations.



DOD (Helene C. Silke)

peace, to roll back nuclear arsenals, reconfigure conventional forces so that they are largely defensive, internationalize responses to aggression, restrain military outlays, and increase transparency. In *A New Concept for National Security*, the authors noted trends that augured well for such initiatives: the internationalization of economics, the information revolution, increased consensus in international relations, and global environmental constraints. Accordingly, they proposed some first steps: superpower denuclearization, more military-to-military contacts, common warning and intelligence sharing, combined proliferation control regimes, and cooperative regional security arrangements.

Preventive Defense: A New Security Strategy for America, a neatly methodical volume by Ashton Carter and William Perry, appeared precisely as the United States and NATO were slipping into war in the Balkans and the Senate Armed Services Committee held hearings that revealed the extent of Chinese espionage at two highly sensitive U.S. nuclear weapons research laboratories. This coincidence insures that the description provided by the authors of their efforts to reformulate defense policy between February 1994 and January 1997 will not be read as an academic treatise.

This book gives coherence to initiatives that Carter and Perry promoted in the Pentagon and explains the concept of preventive defense, which is intended to replace containment and deterrence. As a strategy, preventive defense envisions three situations that the authors believe require military action in the post Cold War world. At the low end of the spectrum are category C contingencies, so-called humanitarian disasters (such as Haiti, Rwanda, Somalia, Bosnia, and Kosovo). They do not threaten national survival or interests but require military action because they may undermine regional and international stability. Category B contingencies endanger interests, but not survival. To check them, the Pentagon under Secretaries Aspin, Perry, and Cohen evolved a strategy to deal with simultaneous conflicts in the Persian Gulf and on the Korean peninsula—two contingencies on which the defense budget is estimated. Finally category A threats can imperil national survival, but they have disappeared with the Cold War. To prevent their reemergence, the authors advanced a strategy of preventive defense, which aims—in the jargon of the *Quadrennial Defense Review* (and borrowed from the *Regional Defense Strategy* by Secretary Cheney)—“to shape the strategic environment” to keep it benign.

Carter and Perry dedicate a chapter to five dangers that could, if mismanaged, jeopardize national survival: the emergence of a Weimar Russia, nuclear weapons migrating from the former Soviet Union, the rise of China as a hostile competitor, the proliferation of weapons of mass destruction, and acts of catastrophic terrorism on American soil. They formulate strategies to handle these dangers.

Finally, the authors insist on the need to preserve robust forces that will ensure security if prevention fails. In the last chapter they claim such a force can be maintained with a budget that has cut defense funding by 40 percent and military manpower by a third under President Clinton. They maintain that this level of funding will suffice because of revolutions which the Pentagon is exploiting in three areas: military technology, business practices, and personnel affairs.

The test for judging preventive defense is how well the administration has done executing its precepts. The Clinton administration inherited the most benign security environment since the end of World War II. Nevertheless perils abound. Category B threats could emerge as the very category A threats to survival the strategy of preventive defense is intended to forestall.

On the Korean peninsula, Pyongyang accepts grants of food, oil, and nuclear power plants with barely suppressed hostility. Despite the fact that it is receiving more U.S. aid than any other Asian nation (over \$300 million last year), North Korea continues to export missiles to unsavory regimes and move closer to acquiring nuclear capable missiles. Not only was a suspected nuclear site discovered last year, but Pyongyang lobbed a Taepo Dong missile over Japan which caused that country to consider acquiring its own missile defense. Americans may legitimately ask what kind of precedent their largesse is setting for would-be proliferators.

Category creep is also a problem in Europe as Kosovo proves. Through a combination of early indecisiveness and wishful thinking, that humanitarian disaster moved from category C to B, as Balkan stability and preserving NATO credibility drove the Alliance and its U.S. leadership to a bloody intervention which accelerated the very atrocities it aimed to prevent.

As the components of preventive defense reveal their weakness, other key strategic areas bear watching. The solution that authors prefer to prevent a

Weimar Russia recognizes the futility of pouring economic aid into a Russia too chaotic and corrupt to benefit from it. They believe the current military-to-military contacts program, in which NATO and Russian forces train, exercise, and prepare to operate in combat together, can help Moscow establish a place in the post-Cold War world that will satisfy its desire for self-respect. The program will, they claim, prevent divisions and conflicts from breaking out in Europe. It will not. Such military activities may be useful for preventing nuclear weapons and fissile material from getting into the wrong hands. The military-to-military contacts program, however, cannot bear the burden the authors assign it because it will not affect the determinants of whether there will be a Russian backlash or breakdown.

The Russian Federation is falling apart for the same reasons the Soviet Union disintegrated. As the former Soviet republics saw no benefit in supporting a central government too corrupt and ineffective to help them with their own domestic problems, so the regions now seek independence from a federal center irrelevant to their economic recovery. Russia in the 1910s is a better analogy than Weimar Germany for what materialized in the Balkans, because Moscow seemed to regress to its old disastrous role as defender of the Serbs, and the Russian military, with or without contact, cared more for its pride than for the lessons the contacts program provided.

Carter and Perry depend on the Nunn-Lugar cooperative threat reduction program to reduce the numbers and control the movement of nuclear weapons. They reproach Congress for not providing

further funding for this program. Yet Congress has extended the legislation to cover the destruction of biological and chemical as well as nuclear weapons. By mid-1998 Nunn-Lugar had provided \$2.4 billion in funding, yet Russia still has between 25,000 and 50,000 of these weapons in its arsenal, enough highly enriched uranium to build another 40,000 to 80,000, and nothing like the fiscal resources and will to destroy the weapons and store uranium safely. As Congress looks into a bottomless funding pit, it is concerned with how little Russia and Ukraine are doing to make threat reduction truly cooperative. The greatest obstacle to further funding is using fungible American taxpayer dollars to dismantle an aging Soviet arsenal while Moscow spends its rubles on deploying its new SS-27 intercontinental missile.

Thoughtful readers may wonder how two very talented men of integrity could function in an administration that made every defense policy decision with an eye not on the national security but on public opinion polls. To what extent did administration views of defense affairs prevent Carter and Perry from accomplishing what they might otherwise have achieved? How much folly were they able to prevent? What policies were they compelled to support against their better judgment? This book provides no explicit answer so one must read between the lines. The authors are too gentlemanly to produce a kiss-and-tell volume or even an apologia *pro vita sua*. Their service recalls an observation made nearly two millennia ago by the Roman historian Tacitus: "There can be good men even under bad emperors." **JFQ**

BEYOND THE SOLDIER AND THE STATE

A Book Review by

JOSEPH J. COLLINS

Civilian Control of the Military: The Changing Security Environment

by Michael C. Desch

Baltimore, Maryland: The Johns Hopkins University Press, 1999.

176 pp. \$34.95

[ISBN 0-80186-059-8]

In his seminal work, *The Soldier and the State*, Samuel Huntington announced that he was dealing with theory and that "Understanding requires theory; theory requires abstraction; and abstraction requires the simplification and ordering of reality." Few who followed Huntington into this realm attempted to develop a comprehensive treatment of civil-military relations. But now Michael Desch has answered that challenge. With considerable intellectual courage and analytical rigor, he offers a theory of civil-military relations that attempts to explain major aspects of this phenomenon across time and international boundaries.

Desch centers his theory on civilian control of the military. For him, "the best indicator of the state of civilian control is who prevails when civilian and military preferences diverge. If the military does, there is a problem; if the civilians do, there is not." He posits that civilian control is easiest when threats are high and mostly international, hardest when they are primarily domestic. When neither kind predominates, the story is mixed and other factors, such as military doctrine, may strongly influence civilian control of the military.

The body of Desch's complex and tersely written tome covers a vast piece of 20th century history, examining 23 cases by the type and level of threat and whether the threats were internally or externally focused. Wars are for the most part periods of high external threat which favor civilian control. Détente, along with periods such as the post-Cold War era, favor heightened civil-military tensions. Overall, high levels of external

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DOD (R.D. Ward)

Rank and file in Chile.

threat produce expert governments and militaries focused on the international environment while low external and high domestic threats bring about disunity, civil-military anxieties, and, *in extremis*, military coups. Circumstances where the level of internal and external threats are both low and high are less easily predicted.

In some cases Desch's theory possesses great explanatory power. In others, such as the civil-military friction in Imperial Germany during World War I, it is stretched to the breaking point. In our day many critics of civil-military relations would find it right on the mark. Without a strong external threat, the U.S. military, still emotionally wed to the Powell doctrine, has become oriented on (some would say disillusioned by) military operations other than war and other activities which detract from its core competency, combat operations. At the same time, inexpert civilian leaders have intruded into personnel affairs and recommended changes in traditional policies such as allowing gays in the military. Complicating matters, the Goldwater-Nichols Act has raised the profile of the top military officer. The last three Chairmen have sometimes run aground on political-military issues, which in fact are the only issues they mediate. At the same time, as a study released by the Center for Strategic and International Studies documented, a growing perception gap exists. Many senior NCOs and officers in the field and fleet have the impression that the Joint Chiefs of Staff are too politically correct. Other members of the

Armed Forces do not understand why conditions which are so troubling to them—such as readiness problems, OPTEMPO stress, and recruit quality—appear so much rosier to military leaders inside the beltway.

Many readers may reject Desch's emphasis on civil-military harmony. Indeed, Goldwater-Nichols was meant to sharpen military advice and thereby give the Armed Forces an opportunity to be heard on key political-military issues. In *Dereliction of Duty*, H.R. McMaster detailed how the President and Secretary of Defense manipulated a group of acquiescent Joint Chiefs at the outset of the Vietnam War. Compare that experience with Desert Storm and its aftermath.

Should the next Chairman resemble Earle Wheeler or Colin Powell? It is obvious that civil-military friction often serves the national interest. To evaluate civil-military relations, one must move beyond measuring military acquiescence to civilian control.

Historians—who usually deplore political science theory and two-by-two matrices—would no doubt set out to demolish some of the 23 cases which Desch presents. Moreover, some of the history on which he bases his predictions has yet to be written. As Andrew Bacevich has argued, Desch's picture of civil-military tranquility during the Cold War is inaccurate.

Moreover, students of comparative politics might object to the fact that Desch's theory pays scant attention to the differences between markedly different types of regimes. It is hard to believe, for example, that civil-military relations in both the People's Republic of China and Great Britain are guided by structural forces that have nothing to do with the official culture, constitutional order, or quality of the political agendas leading those drastically different states.

But the author's theory—which is accurate in so many cases—should not be picked apart. As Huntington advised his readers in *The Soldier and the State*: "One measure of a theory is the degree to which it encompasses and explains all the relevant facts. Another measure, and the more important one, is the degree to which it encompasses and explains those facts better than any other theory." By that latter standard, Desch's book stands as a courageous, definitive work, one that can only be displaced by another work of theory. His critics have their work cut out for them.

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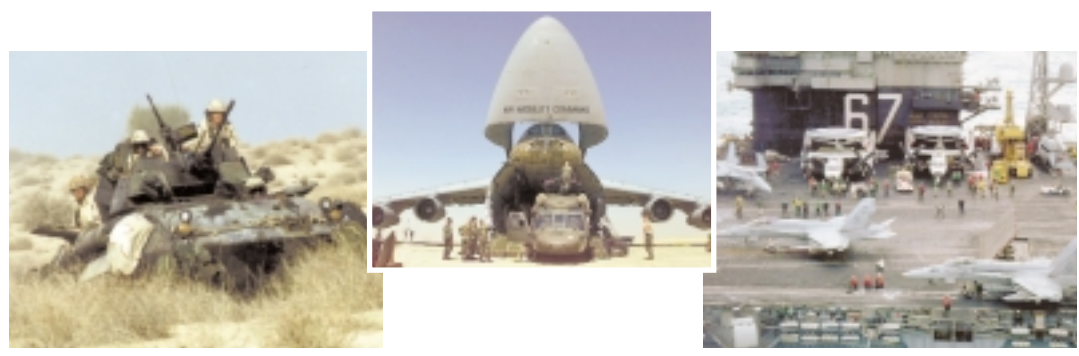
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