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# **Military Review**

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# Chemical Warfighting Considerations

Colonel John A. Mojecki, US Army, Retired

Chemical, biological and nuclear weapons are being developed by countries other than the Soviet Union, and ballistic missiles to deliver these deadly weapons are becoming readily available.<sup>1</sup>

Donald Atwood, Deputy Secretary of Defense, February 1990

HE TRUTH in the deputy secretary of defense's statement to the Senate Appropriations Committee still must be a major concern of our senior leadership and our field commanders, even though chemicals were not employed by Iraq during Operation *Desert Storm*. The successful use of chemical weapons by Saddam Hussein against Iran in the Iran–Iraq War led to a concerted effort, both defensively and offensively, to preclude or mitigate such use against coalition forces.<sup>2</sup>

Why Hussein did not use chemical weapons against coalition forces is still not known with certainty, and may never be known. The speed and lethality of *Desert Storm* and the disruption of Iraq's command and control ( $C^2$ ) infrastructure could have been the main reasons. We know from statements by General H. Norman Schwarzkopf and others that concern for the Iraqi chemical threat led to a concentration of fires on Hussein's chemical and biological production facilities and his air, missile and artillery delivery systems. The bold, rapid and masterful execution of the campaign by coalition forces severely reduced and probably eliminated any chemical warfare advantage Iraq may have had.

Furthermore, the United States and most coalition forces were better equipped and trained to survive and operate under chemical warfare conditions than during any prior conflict. This Concern for the Iraqi chemical threat led to a concentration of fires on Hussein's chemical and biological production facilities and his air, missile and artillery delivery systems. The bold, rapid and masterful execution of the campaign... severely reduced and probably eliminated any chemical warfare advantage Iraq may have had.

factor further added to the deterrence equation. Historically, the use of chemical agents has shown that their use was closely tied to the opponents' inability to adequately protect themselves, as well as an inability to respond in kind. US forces were well equipped—from protective clothing and masks, through detection and warning devices, to collective protection overpressure systems in the M1A1 tank. The readiness of our soldiers and leaders to operate under chemical conditions and the professional Chemical Corps personnel assigned throughout the force structure, as well as the numerous Active and Reserve Component chemical units in theater, were just as important as the equipment.

How did we achieve this highly effective level of chemical defense preparedness? One of the prime contributors to our preparedness has been the Force Development Test and Experimentation (FDTE) field test series CANE (Combined Arms in a Nuclear/Chemical Environment). CANE examines and measures the interactions of combat, combat support and combat service support units using force-onforce, high-resolution field tests.

#### US forces were well equippedfrom protective clothing and masks, through detection and warning devices, to collective protection overpressure systems in the M1A1 tank. The readiness of our soldiers and leaders to operate under chemical conditions ... [was] just as important as the equipment.

Performance differences between operations under conventional and nuclear/chemical battlefield conditions are being quantified. Extended operational scenarios ranging from 72 to 96 hours have been used, and task performance data collected by Army subject matter experts from Army Training and Evaluation Programs. These data were in addition to the instrumented, real-time casualty assessment data.

The CANE test series uses a building block approach to obtain the data that have led to our improved chemical warfighting capabilities. So far, three major tests have been conducted. CANE I evaluated mounted and dismounted operations of a mechanized infantry platoon.<sup>3</sup> CANE IIA examined tank-heavy company team operations.<sup>4</sup> CANE IIB evaluated combat operations at the battalion task force level.<sup>5</sup> Each test included the combat support and combat service support slice appropriate to the test unit's task organization. A test of light forces, which had been scheduled for early 1991, was postponed until 1992 because of Operation Desert Shield. Other tests in the planning stages include air defense and aviation battlefield functional mission areas.

As indicated by the references, the detailed results of the above tests have been published in summary evaluation reports and lessons learned video tapes. It is not intended to repeat those results here, but rather to highlight the more important ones and describe what is being done to implement solutions to the CANE-identified needs. As we move toward adapting AirLand Operations concepts to AirLand Battle doctrine, it is imperative that we do so in light of CANE and other test results. Major General Stephen Silvasy Jr., former deputy chief of staff for Concepts, Doctrine and Developments, Headquarters, US Army Training and Doctrine Command (TRADOC), in a recent *Military Review* article on AirLand Battle stated, "... concepts must drive any structure changes and on-theground testing will be necessary to demonstrate that improvements are actually achieved."<sup>6</sup>

CANE I test results highlighted several operational needs of the mounted and dismounted infantry platoon. Decreased visibility and recognition problems increased fratricide significantly among dismounted infantrymen performing mission tasks under simulated nuclear/chemical warfare conditions (several incidents of fratricide occurred in *Desert Storm*, one involving dismounted infantrymen). Attacks took up to twice as long to conduct; leaders became casualties quicker, and the time to realize they had become casualties and to replace them took longer. Soldier dehydration was a serious problem even though the weather conditions were relatively mild during the test period.

CANE IIA revealed problems in fighting the tank-heavy company team. Fighting "buttoned up" and firing fewer rounds, the company sustained more losses and destroyed fewer of the opposing forces (OPFOR) vehicles during attacks of OPFOR positions. C<sup>2</sup> became more difficult, especially in synchronization of units and in maneuver and agility. Radio messages were longer, and more requests for clarification were recorded. Another key result was that tasks that were routine and practiced showed little or no performance degradation.

The tank-heavy battalion task force was the subject of CANE IIB. As in CANE IIA, the kill/ loss ratios were unfavorable to the task force. The eyes and ears of the commander, the scouts, were particularly affected. The scouts were unable to perform their key tasks because of visibility and hearing restrictions and, on several occasions, became decisively engaged with the OPFOR. Combat support tasks such as those performed by the indirect-fire elements, engineers and Stinger teams took longer to perform or were significantly less effective under simulated nuclear/chemical conditions. Combat service support tasks in maintenance, supply, transportation and casualty treatment and evacuation also took longer or were poorly performed.

In all CANE tests, the most pervasive problems identified were leadership and  $C^2$ . Leaders at all levels tended to do more, apparently having less confidence in their subordinates and staffs. Delegation of tasks decreased and led to leaders becoming more exhausted and irritable. Synchronization of units became more difficult, and the agility advantage inherent in the design of our newer combat vehicles was frequently not exploited. Somewhat complex operations plans could not be executed as effectively as they had been in the conventional battle phase of the test.

The CANE test program identified a number of operational needs that required solution sets to improve our chemical warfighting capability. These are being addressed through an implementation program set out in TRADOC Regulation 71–18, *Combined Arms in a Nuclear/ Chemical Environment (CANE) Implementation Program.* This program provides a systematic and comprehensive procedure for ensuring that NBC (nuclear, biological and chemical) deficiencies in US Army doctrine, training, organization, materiel and leader development are identified, have solutions developed and corrective actions taken and documented.<sup>7</sup>

The commandant of the US Army Chemical School, Fort McClellan, Alabama, is the focal point for this implementation program. He is responsible for scheduling problem solution and corrective action approval sessions with the proponents of the affected battlefield functional mission areas. The program uses data analysis teams, evaluation panels and a council of colonels, all of which include proponent representation. The strength of the program lies in the fact that operational experience and judgments are blended with the mathematical test results. The commander of TRADOC reviews the status of the corrective actions with his integrating center commanders and commandants on an annual basis. So far, over 75 corrective actions have been addressed through the program, and in-



Decreased visibility and recognition problems increased fratricide significantly. . . . Attacks took up to twice as long to conduct; leaders became casualties quicker, and the time to realize they had become casualties and to replace them took longer. Soldier dehydration was a serious problem even though the weather conditions were relatively mild during the test period.

clude solutions in the five TRADOC domains, as well as testing, modeling and policy.

As shown, considerable progress has been made in improving our chemical warfighting capabilities. The operational needs identified by CANE were based on current organization, doctrine, training and materiel systems. That we



We must ensure that our own combat, combat support and combat service support units remain dispersed to decrease their vulnerability and increase their survivability. Also, our troops must be trained and equipped to both survive and operate effectively on an NBC battlefield.

were mentally and physically prepared for chemical warfare in Desert Storm is an endorsement of CANE and other NBC defense reconstitution programs. While maintaining and improving our current high state of chemical warfare readiness, we must actively pursue similar solutions to the challenges of the concepts set forth in Air-Land Operations.<sup>8</sup> General John W. Foss, former commander of TRADOC, phrased the challenge this way, "The Army must be mobile: strategically, operationally and tactically. Flexibility and agility must be force characteristics as well as the mental characteristics of the leader."9 Some of the problem areas identified in CANE centered on maneuverability and agility, and in leadership—both in  $C^2$  and leader flexibility.

Operations Urgent Fury, Just Cause, Desert Shield and Desert Storm, and the decreasing threat in Europe indicate that any future force projections will be to immature theaters. It also is likely that the geography will vary widely. These factors plus political constraints will impact on the geometry of the battlefield. However, AirLand Operations envisions that a future battlefield will include breadth and depth and that the focus will be on the enemy and not on terrain. Whether the battlefield is linear or nonlinear will be influenced by the traditional elements of mission, enemy, terrain, troops, and time available (METT-T). Lower echelons may fight linear battles to create the conditions for division and corps commanders to shape the battlefield for subsequent operational maneuver.

Reduced defense spending and proposed treaty terms most likely will result in fewer units on the battlefield. As an offset to a smaller force size, it is anticipated that increased sensor capabilities will provide greater knowledge of the enemy's location, strength and movement. Also, our capabilities to engage enemy forces at greater ranges with extremely accurate and lethal fires will present new opportunities. *Desert Storm* has shown that this day may already be here. Improvements in stealth technology and real-time battlefield damage assessment will further improve this current capability.

AirLand Operations considers four stages: detection/preparation, establishing the conditions for decisive operations, decisive operations and force reconstitution. What dimensions does the threat of NBC warfare add to these considerations?

**Detection/Preparation.** Reconnaissance, surveillance and targeting of NBC delivery systems are an essential requirement for AirLand Operations. Our ability to maneuver, maintain agility, synchronize our units and mass at the proper place and time will require the ability to locate and target the enemy's capability to employ such weapon systems effectively against



Combat support tasks such as those performed by the indirect-fire elements, engineers and Stinger teams took longer to perform or were significantly less effective under simulated nuclear/chemical conditions. Combat service support tasks in maintenance, supply, transportation and casualty treatment and evacuation also took longer or were poorly performed.

us. Also, we must be able to detect and identify those areas that become contaminated in order to retain our freedom of maneuver. On an extended battlefield with widely dispersed units, this adds emphasis to the development and fielding of remote detection and identification systems employable by satellite, air or unmanned aerial vehicles, as well as ground-based systems. Data from these systems must be provided in real time to the field commanders and their staffs.

**Establishing the Conditions.** Creating the conditions for decisive operations on an NBC battlefield will require the reduction or elimination of the enemy's NBC delivery systems, his C<sup>2</sup> and logistic sustainment of such systems. Accu-

rate, responsive, lethal and long-range delivery systems will be required to support offensive operations. Equally long-range and accurate sensors and surveillance systems will be needed to assess the effectiveness of our attacks. In conjunction with our attack of enemy systems, we must ensure that our own combat, combat support and combat service support units remain dispersed to decrease their vulnerability and increase their survivability. Also, our troops must be trained and equipped to both survive and operate effectively on an NBC battlefield.

**Decisive Operations.** The traditional seizure of the high ground is less significant to Air-Land Operations. Our forces will orient on the

#### Reconnaissance. surveillance and targeting of NBC delivery systems are an essential requirement for Air-Land Operations. Our ability to maneuver, maintain agility, synchronize our units and mass at the proper place and time will require the ability to locate and target the enemy's capability to employ such weapon systems effectively against us.

enemy, not the terrain. Achieving decisive results will require good information on enemy locations and dispositions, and our ability to mass fires and forces quickly and effectively. Once these operations are set in motion, we cannot afford to have them distracted or delayed. On an NBC battlefield, this will require individual and collective protective systems that reduce degradation of our forces and their weapon systems, and an inherent ability to avoid contaminated areas by rapid reconnaissance and identification of clean routes of advance.

Force Reconstitution. Reconstitution on an NBC battlefield to perform necessary reorganization, personnel, supply and maintenance tasks will require NBC reconnaissance and surveillance systems to locate clean areas, which are then organized so as to avoid the creation of lucrative targets. The use of smoke to obscure these areas and to provide deception as to target

location also will be necessary. Appropriate areas for the organization and use of efficient. less logistics-dependent decontamination systems must also be available.

The above stages of AirLand Operations must be addressed in light of the doctrine, training, organization, materiel requirements and leader development programs necessary to support the concept. Widely dispersed units on an extended battlefield will have to be more self-sufficient in terms of support and leader decisions. As Silvasy said, "... risk taking by thoughtful professionals will be the rule."<sup>10</sup> The key to this statement obviously is "thoughtful professionals." Leaders at the lower levels will have a heavier burden to know, with confidence, areas outside their basic proponency, one primary area being the NBC defense area. In the coming period of force reductions, it is likely that the organic chemical unit force structure also will be proportionately reduced. Thus, leaders must have the materiel resources to perform basic NBC defense tasks within their units. To assist in the organization. training and employment of these resources, leaders must have well-trained, highly motivated professional chemical specialists. Senior leadership must preserve the current Chemical Corps infrastructure in our nonchemical units. Our combat, combat support and combat service support unit commanders will be even more dependent upon this level of support on the battlefield envisioned by AirLand Operations. MR

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Colonel John A. Mojecki, US Army, Retired, is a military analyst with ARC Professional Services Group. He received a B.A. from the University of Maryland, and is a graduate of the US Army Command and General Staff College, the Armed Forces Staff College and the Army War College. His various command and staff positions in chemical units, schools and agencies spanning a more than 30-year career included, chief, Doctrine and Training Literature, and director of Chemical and Ground Support Training, US Army Ordnance School; director of Development and Engineering, US Army Edgewood Arsenal; and director of NBC and Tactical Nuclear Warfare, Headquarters, Training and Doctrine Command, Fort Monroe, Virgnia.



The deployment phase of Operation Desert Shield took nearly six months, allowing force planners time to package and adjust the mix of forces needed in the theater. The author cites the real probability that most contingency operations will not afford such a deliberate buildup phase. He sees the need for preparing force packages in advance of probable contingency requirements, built on a standard brigade base and able to accept a flexible mix of units.

HE NATIONAL Command Authority's instructions were taking shape on the secure airhead. The brigade's ground security, an airborne infantry battalion, was deployed. The remainder of the brigade was rolling off aircraft after aircraft. Its batteries of long- and mediumrange artillery gave it an instant ability to kill and delay armored formations at considerable range. Its target acquisition system's ability to acquire these massed targets was uncannily accurate. Ultimately, the brigade's fire units would equal four battalions mounted on highly mobile light chassis vehicles, all wheeled.

Also entering the airhead were armored gun systems and line–of–sight missile platoons that would eventually equate to a battalion of heavy– caliber, direct–fire weapons, 105mm cannons and missiles. This unit would enhance the security battalion's ability to deal with any enemy forces that survived the the artillery pounding as they approached from the frontier.

The brigade's mission was to seize the airhead, a civilian airport, in a country that had appealed to the United Nations for security assistance. The rapidly deteriorating international situation pitted this country against a much stronger neighbor possessing a substantial armored force A mature, all-branch, brigadelevel C<sup>2</sup> system in a modern sense did not emerge until the World War II armored division combat commands.... The headquarters could find itself controlling mixes of up to five tank and armored infantry battalions at one point in a battle and, later on, depending on the mission, perhaps only two, or even none at all.

of several brigades. Equally noteworthy, the terrain on the frontier supported use of these forces.

Because US interests in the region were significant and stability of the existing international border was important to those interests, a sizable part of the UN force being provided was Åmerican. The challenge to US planners and commanders was to project a sufficiently powerful and survivable force into a region where no forward presence existed.

This is obviously not a new problem. The Army has been wrestling with solutions for several years, and is now applying lessons learned from our most recent past deployments, such as Panama and Saudi Arabia, using new technolo-



Habitual relationships formed between battalions and brigades. In practice, these relationships tended to minimize in peacetime training the employment of the brigade headquarters as an effective nuclear all-arms C<sup>2</sup> node. Importantly, the "all arms" tended to focus primarily on the ground maneuver elements.

gy and new organizational and tactical techniques. The result of this effort will hopefully be a force similar to the brigade establishing the airhead in the preceding scenario.

This notional, but highly possible contingency suggests the purpose of this article—that is, to examine a ground force concept for initial entry force projection. The concept design addresses some of the challenges of the post-Cold War contingency operations (CONOPS) environment. Among other things, this environment on a smaller Army base requires the packaging of professionally and technologically superior forces to oppose possible threat forces. The concept builds on a brigade-size element capable of commanding and controlling a wide range of units and assumes that the mix of units may change dramatically over the time frame of the operation. The concept proposed here recognizes that the initial deployment brigades may look very different a day or two after deployment or at the end of the operation.

### **A Truly Nuclear Brigade**

The idea of nuclear (not a "nuclear weapons capable" unit but one that is structured on a bare-bones "nucleus" and tailored to meet the mission requirements) brigade headquarters that can command and control ( $C^2$ ) varied mixes of shifting subordinate units is not new to the US Army.<sup>1</sup> In a fashion, such tactical arrangements have been employed as early as the Revolutionary War.<sup>2</sup> In more modern times, the tendency has been to employ this concept in a branch– pure sense, such as artillery brigades or groups, engineer brigades or groups, with the number of battalions under the group's command adjusting up and down as the mission required.<sup>3</sup>

Even the maneuver arms have tended toward a similar concept of branch pure structures with varying numbers of battalions (two, three or four), again depending on mission. A mature, all-branch, brigade-level  $C^2$  system in a modern sense did not emerge until the World War II armored division combat commands. All other types of divisions were organized after 1942 with regiments (roughly equivalent to a brigade) of three battalions of infantry or cavalry. The headquarters could find itself controlling mixes of up to five tank and armored infantry battalions at one point in a battle and, later on, depending on the mission, perhaps only two, or even none at all.<sup>4</sup>

The approach was revisited doctrinally in the early 1960s when the Army reorganized from the Pentomic System to the Reorganization Objective Army Divisions (ROAD) System. Under this system, three nuclear brigade headquarters operating under the division were generally assigned three maneuver battalions. These battalions might be infantry, mechanized infantry or armor, as the mission required. Even in the infantry division of the early ROAD period (where the majority of the division's battalions were infantry with sufficient motor transport to move no more than one infantry battalion at a time), it was possible to form a hybrid (mounted) brigade of infantry, mechanized infantry and armor using the division's two mounted battalions.<sup>5</sup>

However, increasingly habitual relationships formed between battalions and brigades. In practice, these relationships tended to minimize in peacetime training the employment of the brigade headquarters as an effective nuclear allarms  $C^2$  node. Importantly, the "all arms" tended to focus primarily on the ground maneuver elements. This was a natural result of the predilection of the division artillery (DIVARTY) commander and division support (DISCOM) commander (in effect, two brigade headquarters) to hold the supporting artillery battalion and combat service support, engineers and other supporting arms under their control most of the time. There have been different approaches to this through the years, but even though ROAD doctrine indicated that these assets would support the brigades, task organization of combat arms, combat support and combat service support was not extensively or habitually practiced during training events.

In more recent years, strides have been made in improving exposure of brigades to effective all-arms training and operations. However, the only units that "lived" in such an environment were the few separate brigades and armored cavalry regiments.<sup>6</sup>

Current world conditions point to an environment where US forward positioning is increasingly being reduced to a presence, following a strategy that places fewer forces in various parts



The more typical situation will be a well-armed and possibly battleexperienced Third World power. These states will often be in areas where we do not enjoy forward presence or bases. Such situations may demand forced entry into a theater. Over such a wide range of possibilities and requirements that beg for different types of battalions. of the world and relies more on force projection from CONUS (Continental United States). Such a policy may demand another organizational solution. Potential adversaries in contingency situations may require US forces to fight

During peacetime, these brigades would exercise on field maneuvers with subordinate units from different commands. The units under command would reflect the possible force mixes the brigades would employ for certain contingencies. These brigades would refine command, control and support capabilities, using emerging simulation capabilities.

on battlefields that cover the entire conflict continuum. Enemy forces may range from extensive, well-supplied air and ground forces to not much better than paramilitary elements. The more typical situation will be a well-armed and possibly battle-experienced Third World power. These states will often be in areas where we do not enjoy forward presence or bases. Such situations may demand forced entry into a theater. Over such a wide range of possibilities and requirements that beg for different types of battalions, a flexible brigade  $C^2$  level may be a key to success.

This does not mean that certain types of standard maneuver brigades would not be retained as part of our doctrine. The ability to project large numbers of standardized maneuver brigades into a battle theater will remain a requirement. One reason for this is inherent human limitations in mastering a more complex and chameleon–like brigade. Also, we must consider the difficulties of logistic support required by the formations being suggested.

It does suggest that we may want to augment current structures with a nuclear brigade concept. It calls for a unit structure with a leader and brigade headquarters element trained and able to train subordinate units to execute forced entry missions. This can realistically be implemented by a  $C^2$  element that is more nuclear and flexible in design.

For discussion purposes, let us name this brigade a "contingency operations initial deployment brigade," or in short form, a contingency deployment brigade (CONDEB). This concept, for considerations mentioned, should probably coexist with the more traditional brigade  $C^2$  system as an evolution of nuclear brigade  $C^2$  thinking. However, in practice, only a relatively small number of brigade headquarters may be required to employ this form of task organization.

In a number of ways, emerging ideas being developed in the Army's future warfighting concept, AirLand Operations, and a supporting concept, nonlinear battle, are addressing some of these issues. The CONDEB concept offers a brigade headquarters structure that can fulfill  $C^2$  requirements over a force mix that may be very different from traditional concepts, one that is dynamic in its composition.

### A CONDEB Brigade

The introductory scenario described a situation where the initial ground force brigade established security with no more than an airborne battalion. It was then quickly filled with long-, medium- and close-range fire units. The brigade, in a rapidly developing situation, was organized to seize an immediate base. It then punished and significantly weakened approaching forces at long range. This scenario illustrates the appropriateness of this CONDEB structure. However, the situation did not proceed to later developments or stages of operations. These developments may have involved the need for significant additional reinforcement by subsequently deployed ground maneuver elements. These additional elements may have eventually caused a reconfiguration of the brigade or the addition of other, more standard brigades to the operation. Such actions are easily executed within the nuclear, building block concept.

In a different scenario, it is just as possible that the initial CONDEB might have consisted of a significant countermobility (engineer), elec-



The initial ground force brigade established security with no more than an airborne battalion. It was then quickly filled with long-, medium- and close-range fire units [which] punished and significantly weakened approaching forces at long range... In a different scenario, it is just as possible that the initial CONDEB might have consisted of a significant countermobility (engineer), electronic warfare or air defense element, depending on threat capabilities.

tronic warfare or air defense element, depending on threat capabilities. To a degree, we have been leaning in this direction. Operation *Just Cause* in Panama may have illustrated such a need. As a doctrinal issue, we do not regularly practice brigade  $C^2$  elements in such "mixed bag" force packages. Nor do we cause brigades to have to adapt to rapid changes in the mix of these forces. As noted earlier, this is due primarily to  $C^2$ limitations in effectively adapting to rapidly changing force mixes and the logistics challenges inherent to such changes.

Implementing this concept may mean stretching the envelope of human flexibility and adaptability. Also, limitations in peacetime training systems and peacetime and wartime logistic support may further inhibit such a doctrinal system. In order to accommodate these limitations and still realize the benefits of this concept, it may be necessary that most brigades will have a set of heavy force or light force battalions in garrison that are their normal peacetime set. These brigades could train for appropriate contingencies, possibly on field exercises with the more "original" force mix of battalions. For certain other missions, they will exercise on simulations with a flexible mix of battalions called for by particular contingency requirements.

Another option may be to maintain a number of active headquarters, brigade in this case, specifically oriented on certain missions. These brigades would have no organic battalions. During peacetime, these brigades would exercise on field maneuvers with subordinate units from different commands. The units under command would reflect the possible force mixes the brigades would employ for certain contingencies. These brigades would refine command, control and support capabilities, using emerging simulation capabilities.

Such brigades would be specifically designed to accept a range of units that "weighted" the particular brigade on certain battlefield operating systems (BOS). The basis for the weighting would the CONOPS missions planned, such as maneuver, fires and countermobility. The brigade's  $C^2$  and support assets could be designed to be rapidly reconfigured with new battalions to weight toward another BOS as the operation matured.



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In the case of the opening scenario, a weighting on indirect fires was apparent. Such a firesoriented initial entry force is a concept worth further exploration in its own right. However, it serves as a counterpoint begging for reexamination of our current tendency to initially weight or orient a force package design around a maneuver-heavy base. In this situation, the task organization emphasized a small, compact force, a battalion, to seize and secure the airhead. Subsequent brigade units were units with significant long-, medium- and short-range fire capabilities designed to severely punish the threat's heavy forces at a distance. Augmented by air support and superior target acquisition capabilities, this force is designed to have sufficient combat power to buy time. It will severely hurt the approaching enemy force. It may be an ideal force for the purpose of securing a base for the subsequent entry of a more substantial force package.

If this brigade were a nuclear formation designed to accomplish a specific mission, it could be withdrawn as parent brigades of its battalions and separate companies arrived. These subordinate units would revert to their organic brigades. Another possibility, as indicated earlier, would be to reconfigure the brigade with a greater maneuver orientation.

The feasability of this concept is largely dependent on the organic support capability such brigades would have. How effective would the brigade be at solving the support issues? In terms of support organization, the short answer might be a normal brigade configuration in garrison of a headquarters without troops and a support task force. The support task force could be organized from existing nonorganic units (Active or Reserve) and drilled in the brigade's primary mission(s) periodically. A more desirable possibility would be to provide a support battalion headquarters with two possible options: a robust organic support battalion along the lines of a current forward support battalion (FSB) but with capabilities to support all manner of units, light and heavy; or, a battalion with minimal permanent structure that could be quickly filled for a mission from Active and Reserve assets based on the CONOPS plan activated. Obviously, the robust organic organization is the more desirable. However, fiscal considerations may drive the

end result more toward the minimal battalion arrangement, one that can be made to work if sufficient training with units is made possible.

All of this suggests a doctrinal brigade-level  $C^2$  capability that is similar to the way forces were packaged for Panama. The methodology difference is that from the outset, the Army will maintain organizations designed to fight as brigades with unique organizations for every mission. As noted earlier, this sort of organization would probably work best in the mid and lower midrange of the conflict continuum, where forced entry was necessary. It may have applicability in the upper, more intense range of the continuum. However, for the same reasons that drove the Army in 1942 and 1943 to increasingly standardize the tables of organization and equipment (that is, in equipping, manning, supplying, and training massive forces deployed globally), the standard format brigade should also be retained.<sup>7</sup>

On the last point, experience over many years appears to support maintenance of relatively standard brigade packages by branch. One critical reason has been to support execution of repetitive, expensive branch-specific training. This is necessary if the Army is to assure that branch-specific soldier, squad and crew, platoon, company and battalion skills are trained to battle standard. The implication here is that the standard brigades, for lower-order CONOPS scenarios, would serve as "force building block pools" that would provide the companies, batteries or battalions to build the CONDEB brigades. At the higher end of the conflict continuum, under their organic divisions, the standard brigades would serve as the force building blocks.

In a conflict scenario at the higher end of the conflict continuum, the CONDEB brigades might fill with Reserve Component battalions to form standard maneuver brigades. They would be responsible for moving their battalions through a concentrated, prescriptive training program to bring the brigade to standard as quickly as possible. This would allow the Army a means to quickly expand the number of Active brigades ready for deployment. A more desirable possibility would be to provide a support battalion headquarters with two possible options: a robust organic support battalion along the lines of a current FSB but with capabilities to support all manner of units, light and heavy; or, a battalion with minimal permanent structure that could be quickly filled.

### **Future Brigades**

The preceding discussion is a brief examination of an organizational concept for future force packaging. The concept addresses challenges we must now face in the CONOPS world. It offers a way, on a reduced total force, to package uniquely tailored forces across the conflict continuum. It does not suggest the elimination of brigades in a more traditional combined arms configuration. In fact, it argues for both brigades in the force. It offers a flexible approach to building uniquely tailored brigades around an adaptable nuclear brigade headquarters. This tailoring can emphasize a particular BOS, such as fires, against a particular forced entry requirement. This approach is a departure from our current military thinking.

There are also several advantages to this way of thinking regarding the emerging AirLand Operations and nonlinear battlefield doctrinal concepts. The approach may be particularly applicable at the lower range of the conflict continuum. Specifically, brigade–size elements that are capable of being tailored could efficiently emphasize a particular BOS during key phases of an operation. Continued development of this idea may answer some of the tough questions about initial entry forces.

It also points out that formations like the CONDEB brigade might add a mobilization dimension to a smaller Army. The brigades may do this by providing a number of Active Army TOE brigade–level  $C^2$  elements that can quickly and effectively absorb and train Reserve Compo-

nent subordinate units to standard. This would be a powerful transition tool in a mobilization scenario.

Certainly this discussion has been too brief to extensively examine tactical and operational issues, as well as many of the more detailed organizational and doctrinal considerations. These will necessarily be the focus of later review.

The basic concept proposed here is not neces-

sarily new. However, the recommendation to consider a wider application of BOS capability tailoring, by changing the mix of units, goes a lot farther than current or past Army practice. If post-Operation Desert Storm budget constraints continue current trends, not only will this concept address contingency readiness requirements, such a flexible CONDEB organization may become a necessity. MR

#### NOTES

1. A nuclear brigade in this discussion does not apply to nuclear we

A nuclear brigade in this discussion does not apply to nuclear weapons brigades. Rather, the term means a flexible headquarters able to command and control different types of units and varying numbers of these units.
 Brigade organization during the Revolution, by necessity, had to be flex-tiple. Discussions of how this command and control level operated during the war are provided in Robert K. Wright's, *The Continental Army* (Center of Military History, Washington, DC, 1983), 29, 85, 87 and 97.
 More recent brigade organizations demonstrated this tendency. A survey of World War II order of battle for brigade organizations shows an arm specific flavor. Shelby L. Stanton's *Order of Battle, US Army in World War II* (Novato, CA: Presidio Press, 1984) clearly states the organization and function of these arm specific brigades (and groups).

CA: Presidio Press, 1984) clearly states the organization and function of these arm specific brigades (and groups). 4. Employment of combat commands in the armored divisions during World War II demonstrated a very flexible approach to brigade-size force packaging. These units were frequently reorganized against missions using a pool of divi-sion battalion assets. A good discussion is provided by Kent Roberts Green-field, Robert R. Palmer and Bell I. Wiley's The US Army in World War II. The Army Ground Forces: The Organization of Ground Combat Troops (Wash-ington, DC: Historical Division, Department of the Army, 1947), 323, 328–293. 5. For a discussion of the Reorganization Objective Army Divisions (ROAD) and the intended operational function of the divisional brigades, see CPT Jona-than M. House's Toward Combined Arms Warfare: A Survey of 20th–Century Tactics, Doctrine, and Organization, Combat Studies Institute, Fort Leaven-worth, Kansas, 1984, 158–60. 6. Current doctrine stated in US Department of the Army Field Manual (FM)

Current doctrine stated in US Department of the Army Field Manual (FM) 6. Current doctrine stated in US Department of the Army Field Manual (FM) 17–95, Cavalry Operations (Washington, DC: US Government Printing Office, 14 February 1986), describes general organization, roles and missions of the armored cavalry regiment and FMs 71–1, The Tank and Mechanized Infantry Company Team; 71–2, The Tank and Mechanized Infantry Battalion Task Force; and 71–3, The Armored and Mechanized Infantry Brigade, all deal with the separate maneuver brigade. These units are described as combined arms



formations of combat arms, combat support and combat service support. 7. Discussion on pages 265 to 382 of The US Army in World War II: The Army Ground Forces: The Organization of Ground Combat Troops, pro-vides, an extensive rationale for standardized combat organizations during World War II.

Lieutenant Colonel Thomas R. Rozman is chief, Concepts and Strategies Division, Collective Training Directorate, Office of the Deputy Chief of Staff for Training, US Army Training and Doctrine Command, Fort Monroe, Virginia. He holds an M.B.A. from the University of Massachusetts and is a graduate of the US Military Academy and the US Army Command and General Staff College. He has held various command and staff positions in Korea, Europe and the Continental United States. A frequent contributor to Military Review, his articles, "Making the Combined Arms Training Strategy Work," "Reserve Components' Tactical  $C^{2}$ ," and "Maneuver and Gunnery Training for Tomorrow," appeared in the May, October and November 1991 issues of Military Review respectively.

## Some Thoughts on Operation Desert Storm and Future Wars

By Colonel John D. Waghelstein, US Army, Retired Copyright 1992

Before we become too enamored with our success in the Middle East, we should take a moment to review our penchant for learning the wrong lessons from the last war. While we can take pride in each service's contributions to the victory, there are some disquieting comments that somehow this is a precedent-setting war-"This is what we've trained for, and this is how wars should be fought." What is lacking is a grasp of history coupled with a sense of reality. As reluctant as I am to conjure up the old saw about repeating history, it may be useful to remind ourselves that we could be repeating the pattern that led us into trouble before.

After the American Revolution, we ignored the contributions of our irregular forces in three of the four theaters of operation and glorified the Continental Army's role as the sole reason for our success. Subsequently, Brigadier General Josiah Harmar and General Arthur St. Clair met with disaster at the hands of Indians who failed to cooperate, and the Army left a large number of dead in the forests of the Northwest Territory (1791 and 1792). General "Mad" Anthony Wayne assumed command, and following a major reorganization and two years of extensive training, the Army finally put the Shawnees and their allies out of business at Fallen