Infantry

FRONT COVER:
Sergeant First Class Mark Gallegos of the 1st Battalion, 24th Infantry Regiment, 1st Brigade, 25th Infantry Division (Stryker Brigade Combat Team) points to the building he wants his squad to enter during a combined operation in Mosul, Iraq. (Photo by Sergeant Jeremiah Johnson)

BACK COVER:
Soldiers with the 1st Brigade, 25th Infantry Division (Stryker Brigade Combat Team) in their Stryker Infantry Carrier Vehicles scan for enemy activity during an operation in Mosul, Iraq. (Photo by Sergean Jeremiah Johnson.)

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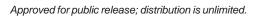
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0432201

Distribution: Special

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Infantry

NOVEMBER-DECEMBER 2004   **Volume 93, Number 6**

Commandant's Note

BRIGADIER GENERAL BENJAMIN C. FREAKLEY

MODULARITY

The transformation on going in the Army is part of the evolutionary process which all armies must undergo if they — and the nations they serve — are to survive. History is full of examples where the nation that adapted the fastest to change won the war. Well before Rome's legions had dominated their known world and imposed a period of peace and stability that would endure for over two centuries, armies of earlier cultures learned that adaptability means survival. This adaptability allows armies to train, sustain, and fight more efficiently and more effectively, and sustains warriors' confidence in themselves and in their leaders. Five centuries before the birth of Christ, Greece and Sparta were already adapting the way they fought, and defeated adversaries whose methods of fighting had hitherto been unbeatable. Within 10 years, they had inflicted crushing defeats on the Persians at Marathon and at Salamis by learning their tactics and adapting their own to counter them. Centuries later, beginning in 1618, the Swedish King Gustavus Adolphus emerged as the dominant military leader of the Thirty Years' War when he abandoned the massive, unwieldy formations that dominated European warfare, and transformed his army into one of smaller, more maneuverable infantry units, cavalry, and field artillery.

Prior to America's entry into World War I, we transformed a 108,000 man Army of regulars and national guardsmen into what would be a two-million man expeditionary force. At the same time we had to learn and train this force in the techniques of 20th Century warfare, and the Army did it by studying the tactics and techniques, and the successes and failures, of our allies and our enemies. The lessons of the First World War were not forgotten; since then the U.S. Army has continually evolved new tactics, techniques, procedures, and organizations to better respond to potential or current threats, and today's transformation which includes reorganization into a modular force is a continuation of that process.

We are a nation at war, and the global war on terror has revealed the diversity and resourcefulness of the enemy. He will mass forces only to the minimum extent necessary to strike, and then immerse himself in a population whose lives he endangers by his very presence. To anticipate and counter such an enemy, we must be able to deploy lethal, effective, sustainable units with the right capabilities anywhere in the world, and we must be able to do it even faster than we have in the past. The division-based organizations of our earlier force projection have required us to deploy sometimes hastily task-organized brigade-sized units — that may or may not have extensively trained together — for the missions they were about to undertake.

We are now moving to a brigade-based tactical fighting organization which is to some extent analogous—but not identical — to the Army's earlier separate brigades with which we are familiar. Each had its own mix of combat, combat support, and combat service support elements that enabled it to fight and sustain itself. The modular brigade combat team (BCT) is designed to be a complete, combat-ready organization that receives additional task organized capabilities as needed, in country. Some of the five types of supporting brigades (Reconnaissance, Surveillance, and Target Acquisition; Aviation; Sustainment; Fires; and Maneuver Enhancement) have relatively fixed organizations while others have core command and control (C2) and support capabilities that are augmented by specialized battalions or companies based on mission analysis. All are able to assimilate additional task organized elements as needed. Joint capabilities are absolutely essential to the success of modularity, and the BCT organizational design has been built to capitalize on this through C2 networks, intelligence gathering capabilities, and better integration of tactical air control parties (TACP). The new modular organizations provide a mix of land combat power that is task organized for any combination of offensive, defensive, stability or support operations as part of a joint campaign. Success in tactical operations is based upon securing or retaining the initiative and exercising it aggressively to defeat the enemy. A core concept for the modular force is to organize, train, deploy, and fight as a combined arms team that is inherently joint.

The division, corps, and army headquarters are being condensed

into two more flexible headquarters, currently called the UEx and UEy. The UEx will have no fixed organizational structure outside of its requirements to man and equip the command posts and provide support for the commander. The UEx gives up some of the tactical warfighting responsibilities to the BCTs, while gaining some Corps responsibilities. BCTs are associated with a home station UEx for training, and deployment reach back, and will often deploy with this UEx as the higher headquarters for combat. However, they are just as likely to deploy with BCTs and supporting brigades from various locations. In the cases where BCTs deploy separately from their home station UEx they are task organized to a UEx or JTF HQs designated for a given area of operations, based on a regional combatant commander's METT-TC analysis.

The Army is moving from multiple types of ground maneuver brigades to just three Tables of Organization and Equipment organizations: the Stryker BCT (SBCT), the Infantry BCT (IBCT), and the Heavy BCT (HBCT). While we will not fully discuss the details on the significant changes we are seeing within the Heavy and Infantry BCTs in this note, it is important to highlight some of the organic combat, combat support, and combat service support capabilities. These units are no longer task organized to a brigade; they are assigned to the BCT. (Task organization still occurs, both within and from outside the BCT; however, this will not be as common as it was before the transformation.) The modular brigade yields big benefits in teamwork, cohesion, and effectiveness, but requires additional focus and effort in individual, crew, and small unit collective training. As an example, an air assault brigade of today has roughly 60 military occupational specialties (MOS) in it, while the IBCT has over 100. More is to be expected of our leaders! I recognize that to support this we at the Home of the Infantry must develop better training methodologies, both within the Institution and for home station, to include distance learning and Mobile Training Teams.

Although organized with different equipment and MOS's, the two BCTs look essentially the same. Each has a staff with increased functional capability and a deputy commanding officer (DCO). Each has a brigade support battalion (3 companies plus an HHC), a Fires Battalion (2x8 105 or 155), a reconnaissance battalion or squadron (3 companies/troops) and two maneuver battalions. (A third maneuver battalion is projected in the future.) The infantry battalion consists of 3 rifle companies, a weapons company, and an HHC. The combined arms battalion has 2 armor, 2 Bradley, 1 engineer, and an HHC. Each maneuver battalion also has a 10 man sniper section within its HHC. Each of these battalions has a dedicated forward support company (transportation and maintenance) which, although assigned to the BSB, will habitually train, deploy, and fight with a specific battalion.

The two BCTs also have a new organization called the brigade troops battalion (BTB). The BTB has the separate companies and platoons assigned to it for administrative and logistics support, plus individual and collective training responsibilities. Sub units include the battalion HHC, MI Company, Network Company, MP Platoon, and Chemical Platoon. The IBCT BTB also has an organic Engineer Company. All assets within the BTB (minus the BTB HHC) work for the BCT; however, the BTB commander and staff give the BCT commander more options on how he organizes the battlefield. A core function of the BTB is to provide logistical support to any element of the BCT that is not task organized to a BCT battalion. The BTB also assumes other roles, such as monitoring assigned areas of operation, conducting security operations if task organized with additional combat power, co-locating with the main command post or acting as an alternate CP, to name a few.

The HBCT has a three-troop reconnaissance squadron (M3/HMMWV mix) and the IBCT has a three-company reconnaissance battalion (HMMWV, mounted and dismounted capability). This gives the BCT Commander a tremendous capability to conduct intelligence, surveillance, and reconnaissance missions, and reflects the shift of some of the old division capabilities to the BCT. We see the threat sooner and more precisely from units organic to the BCT. When coupled with higher joint and national intelligence feeds, we verify, synchronize efforts, and, if required, engage the enemy more quickly with internal, UEx, or joint assets. Additionally, we have redundant means to get an accurate battle damage assessment. The capability for fast and accurate sensor to shooter information sharing is better enabled by the modular design.

The BCT staff now contains assigned expertise that in the past was nonexistent or had to be task organized to the brigade. Examples include the addition of MP, Civil Affairs, PSYOP, PA, and IO personnel, plus the staff has formalized cells to perform functions that in the past were ad hoc, at best. These include an Air Defense Airspace Management (A2C2) cell, a Brigade Aviation Element, and a Fires and Effects Cell. The XO will be able to focus on staff integration and synchronization, while the DCO can focus leadership in other areas as directed by the Commander. The BCT Commander will have more flexibility in how he sets up his Main CP, TAC CP, and Command Group. A command and control system that includes networked information systems, combined with advanced sensors and better analysis and information management, will allow the Commander to see, understand, and share tactical information more rapidly.

We are going though a significant change across the entire Army, not simply within the Infantry. Our entire structure of systems is being reevaluated to determine how we can better support the Warfighter. We are updating doctrine and developing better training methodologies, refining the TOE organization to give the Commander what he needs to accomplish the mission, changing POIs for leadership development, and stabilizing the force so units can train as a team and remain in a high state of readiness for extended periods of time. As new technologies and materiel become available, BCTs will be gradually upgraded over time.

The Army is changing for the better, and support of modularity efforts complements my priority of supporting the global war on terrorism. History has repeatedly taught us that wars are won and nations preserved by capably led, quality Soldiers who are trained to standard. The individual Soldier and his leaders have always been the key to victory, and will continue to be as long as freedom endures. This is where the Infantry excels and where we strive for continuous improvement. The success of our modularity initiatives requires focus, discipline, and dedication, three areas in which the Infantry has consistently led the way. I am proud of you and our Army; we are setting the standard. Follow Me!

ADAPTIVE LEADERSHIP:

The Creative Application of Battle Command

CAPTAIN DAVID VOORHIES

This article was written in response to an article published in July 2004, by the Strategic Studies Institute of the U.S. Army War College. The article, titled "Developing Adaptive Leaders: The Crucible Experience of Operation Iraqi Freedom," was written by Dr. Leonard Wong, an associate research professor of military strategy at the institute. (This article can be viewed online at www.http://carlisle-www.army.mil/ssi/pubs/display.cfm/hurl/PubID=411.)

Adaptability is forged in the crucible of Operation Iraqi Freedom. Mr. Leonard Wong first proposed this notion in a 2004 article on adaptive leadership. Wong suggests that when "confronted with complexity, unpredictability, and ambiguity, junior officers are learning to adapt, to innovate, and to operate with minimal guidance" in the "crucibles" of OIF and OEF. Wong further indicates that institutionalized senior officers and the doctrinal aspects of Troop Leading Procedures and the military decision-making process (MDMP) merely hinder the adaptability of these junior officer combat veterans. These and other "bureaucratic forces gradually whittle away and wear down these young warriors with SOPs, TTPs, MREs, and strict adherence to the MDMP. Moreover, Wong argues for training and doctrine to focus on "execution-centric" methodology rather than its traditional "plan-centric" dogma. Wong provides an interesting article that invites needed debate on the subject of combat leadership. By harnessing the experiences of these recent combat veterans, Wong stresses that the Army could only hope to foster a new way of thinking to prepare and fight the new threat encountered in Iraq and Afghanistan. However, when analyzing how we train and prepare our junior officers for combat, military professionals should use his article as a point of departure, not as the approved solution.

Unfortunately for Wong, adaptive leadership is not a new concept. It has not been created by the complexities of fighting in Operations Enduring Freedom and Iraqi Freedom, nor have junior officers fighting in those combat experiences exclusively produced it. Adaptability is the current "buzz-word" for leaders that can effectively use a cognitive process to solve problems, take risks, and operate within the confines of their higher commander's intent. Adaptive leadership is, and has always been, the application of

doctrine in terms of visualization, description, and direction of a plan given a violent, ambiguous, and fluid combat environment: it is the creative application of battle command.

Doctrine Revisited

Combat veterans from Iraq and Afghanistan are still using a cognitive process to solve problems. Battle Command is the Army's description of a combat leader's ability "that is principally an art employing skills developed by professional study, constant practice and considered judgment that entail visualizing the operation, describing it in terms of intent and guidance, and directing actions of subordinates within that intent" (FM 3-0,5-1). A leader first visualizes himself, his mission, his capabilities, and his constraints. A leader must then be able to visualize the terrain and deduce from it certain applications that enable the projection of combat power. Finally, a leader visualizes the enemy in terms of order of battle, pattern or trend analysis to understand threat capabilities and determine probable courses of action that the threat might employ. The threat may entail not merely an angry insurgent toting RPG-29s, but factors in the other 11 critical variables that current contemporary operating environment (COE) doctrine affords such as information (media), economy, and politics that cause instability.

In short, the mission analysis process is just the first step in a leader's ability to make a tentative plan according to the troop leading procedures. This is Army doctrine. A leader may have a lot of time to plan, or as most accounts from OIF suggest, merely minutes before execution may be required. However, whether a leader is tasked to fix a water well, hold a town meeting, or pass out handbills while attempting to destroy a threat, adaptive leaders are still using a cognitive process to arrive at sound conclusions for mission execution. Whether they're aware of this or not, these young officers are using doctrine.

Many junior officers interviewed by Wong indicated a lack of doctrine applicability in OIF. Perhaps they stated this because they do not in fact know, nor understand their own doctrine. These same officers executing urban operations, seemingly overwhelmed by the numerous types of tasks assigned them, executed missions "by-the-seat-of-their-pants" with mixed results. In lieu of any plan, these officers merely executed operations with limited understanding

of what they were doing, sometimes taking unnecessary gambles and naturally became frustrated as a consequence.

Perhaps many lieutenants and junior captains should read FM 3-06.11, the Army's 2001 Urban Operations manual, before deploying to an environment principally defined by urban landscape. The manual is principle based, not all encompassing, but at least affords explanations of combat applications that may help a tank officer understand that he may in fact have to dismount a portion of his crew to ensure his tank's security. If he understood the doctrine, it might not also be such a shock to that tank platoon leader to detach individual tanks in support of infantry when conducting offensive operations in urban terrain. It may also help the combat service support officer understand that security isn't an option and assist officers of all branches ignorant of the basics to train their outfits to conduct combined arms operations when fighting in densely populated urban areas. To operate as an "infantryman first" mentality ought to be the warrior ethos of all Soldiers in the Army. Understood doctrinal principles only enhances an officer's adaptability, it doesn't hinder it. For as Colonel Kurt Fuller, commander of the 2nd Brigade, 82nd Airborne Division recently commented after serving 15 months in Iraq, "you cannot effectively abbreviate a process you do not comprehend, nor can you deviate from a doctrine you haven't read."

Inconclusive Analysis

Wong made in incomplete analysis of the Army's ability to train and prepare junior officers for combat. He made reference to Captains Career Courses and Basic Courses that are inadequate and do not "fully leverage the knowledge gained" by our veteran junior officers. He suggests ignoring lessons learned by these young warriors in lieu of stovepipe dogma dictated by mentally rigid instructors. Perhaps he ought to take a trip to Fort Benning and visit the seminars there. He may surprise himself to know that recent combat vets (both instructor and student alike) actively share their knowledge and TTPs in a manner that reinforces the doctrine that enabled them. It may also surprise him to understand that the COE Enemy Threat doctrine long replaced Krasnovian Tactics

years ago, both at the schoolhouses and the combat training centers.

Civil Military Operations (CMO), though not a focus of study (and never should be), is incorporated into the instruction as a dynamic that shapes the battlefield and local perceptions. CMO in and of itself is important, but only as important as it can be executed within the parameters of combat operations that remain the focus of any competent combat leader. The POI of the ICCC has in fact changed to better reflect the contemporary operational environments of Iraq and Afghanistan. Instructors still teach students "how to think", not "what to think." The assertion that the Army is not paying attention to its "crucible officers" is one that reflects a myopic view of reality from an authority far removed from the company-grade level.

Junior officers are not the only officers forced to adjust the principles of doctrine to form tactics, techniques, and procedures. Many senior field grade officers, from battalion S3 to brigade commander realize that plans never survive in tact after first contact with a hostile force. Wong makes a false assumption when he ignores that battalion and brigade commanders have also gained knowledge and experience in the "transformational experiences – crucible experiences to achieve adaptive capacity." After all, it was brigade commanders in OIF, like Colonel Joe Anderson of the 101st Airborne Division (Air Assault) that understood the need to

imbed robust information operations with maneuver operations and trust that development to be executed at the company level.

It also appears that Wong may be hinting that effective leadership is a learned trait and not one that may already be present in the personality of the unit commander. In this line of logic, it would seem that officers with no OIF crucible building experiences could not in fact be adaptive, hence effective. Wong describes an adaptive leader as having the "ability to switch your focus" and "be flexible as with a water faucet and turn on hot and then cold water" depending upon the situation. Officers at all levels in OIF are in fact effective and efficient leaders not merely because they can execute multiple things, simultaneously to standard by rapidly switching focus. Rather, they can take risks with their Soldiers because of demonstrated maturity, competence and confidence and are trusted to execute by their higher headquarters. It isn't the situation that forms the leader, as Wong advocates. It is in large part the leader's natural ability to use a cognitive process to analyze the situation, generate options, apply combat power and overcome threats to instability while imbuing in his/her Soldiers rationality for doing so. This is adaptive leadership. It matters not whether that leader must cordon off a city block to search for contraband or meet with the local Mullah to discuss the pleasantries of sewage repair. OIF has not changed the ingredients for good leadership: it has in fact demanded more from leadership at the junior officer level than is already present there.

Wong's Positive Assertions

Wong's article concerning adaptive leadership does reinforce age-old principles. His research reinforces how leadership is affected by the ever-changing scope of threat, culture, and mission. His premises that combat stresses naturally create better leaders overall based upon their experience alone are valid. He is also correct that the lessons learned by these seasoned veterans need to be harnessed and applied to current doctrine. Wong may be correct that many company-grade officers are operating autonomously and decisively in OIF with the maturity of field grade

officers. Moreover, some brigade and battalion level commanders may in fact stifle the "maneuver space" of their subordinate leaders with rigid adherence to outdated checklists and policies. Arguably, the initiative of company grade officers may in fact be second-guessed, overruled, and micromanaged both in combat and during home station training. Wong's argument does provide senior leaders within the profession of arms with a much-needed analysis of how we view and trust our junior officers. However, to conclude that adaptive leadership is in fact "a transformational leadership" trait only gained through combat experience, while categorically ignoring cognitive processes to achieve results is a fallacy.

Adaptive leadership is the creative application of doctrine. It is the art of employing battle command in a given COE. It is through this cognitive process that officers incorporate a fundamental understanding of the terrain, enemy, and the higher unit commander's mission to achieve measurable results in a stressful, violent, fluid contemporary operational environment. The adaptive leader is the risk taker that fully understands security, fire and maneuver and the cultural aspects of the civilian population in which his unit operates. Adaptive leaders can execute mission-type orders in Iraq and Afghanistan because they have an essential understanding of combat operations as their focus. They thrive at executing civil military operations because they use the same cognitive process, called troop leading procedures, to arrive at ad-hoc plans that get results. The Army's career courses and combat training centers have changed their construct to harness lessons learned and apply them in training young officers for their next fight. The level of adaptability may be tied to the parameters set by higher headquarters, but the environments of OIF and OEF did not create the phenomenon of adaptability. Adaptability has always been present and has recently been underscored in current operations by junior officers that demonstrate great leadership.

Captain David Voorhies currently serves as small group instructor at the Infantry Career Captains Course on Fort Benning. He graduated from West Point in 1995. His past assignments include serving with the 1st Battalion, 21st Infantry, 25th Infantry Division (Light) and 1st Battalion, 5th Cavalry, 1st Cavalry Division, where he served as both rifle and HHC company commanders.

AIR ASSAULT EXPEDITIONARY FORCE:
THE FUTURE FORCE OF THE ARMY

The Army began its first spiral of live force-on-force experiments in September 2004 to test leading edge technologies for Future Combat Systems.

"Future Combat Systems (FCS) will replace the current legacy force, and Fort Benning is the catalyst for these experiments," said Bob Kruger, Fort Benning's lead Project Officer for the Soldier Battle Lab.

"In the future, there will be radical changes as how pertinent information is obtained and disseminated to combat leaders and their subordinates. The Air Assault Expeditionary Force (AAEF) spirals are a series of experiments to help us get there," said Kruger. With the support of the Experimental Force (EXFOR) Company of 1st Battalion, 29th Infantry Regiment, AAEF will help transition the current force into the future force. The focus of the first experiment is to test how the latest technologies can increase the lethality and survivability of a small mobile combat unit.

Beginning in September 2004, the EXFOR Company conducted a series of missions consisting of raids and attacks with basic combat loads, weapons, and RFI equipment. Information was gathered by data collectors on the current lethality of a small combat unit utilizing contemporary platoon and company-level assets.

The second set of live experiments during Spiral One included testing a variety of equipment developed by various government agencies to include Defense Advance Research Projects Agency and the Communication-Electronics Command's Research Development and Engineering Center as well as several defense industry leaders. Some of the equipment tested by the EXFOR included: Class I Unmanned Aerial Vehicle (UAV), Cost Effective Targeting Systems (CETS), Airborne Retransmission Platforms, Unmanned Ground Systems, dismounted Soldier communications/GPS tracking, and Mobile Command and Control (MC2) software.

These technologies changed the way the platoon planned, gained intelligence, and fought the opposing force (OPFOR) during their missions. It streamlined the planning process and shaped the objective in favor of the attacking element. By receiving real-time data from the platoon's sensor technology, the platoon's leadership was able to position elements and quickly destroy the enemy. Beyond-line-of-site (BLOS) capabilities coupled with current and new tactics developed during AAEF drastically increased situational awareness, lethality, agility, and survivability of the platoon.

Subsequent experiments will take place over the next three years, integrating improvements in C4ISR technology and incorporating recommendations of the EXFOR users. AAEF will continue to experiment with future technologies as well as some used by the conventional Army.

THE BRADLEY FIGHTING VEHICLE:
THE ULTIMATE URBAN ASSAULT VEHICLE?

LIEUTENANT COLONEL GARY W. LINHART

"There is a current need for a lightly armored vehicle that will provide protected cross-country mobility and a vehicular mounted firepower capability able to support mechanized infantry operations in mounted and dismounted combat."

"The IFV shall possess a cross-country mobility capability sufficient to permit its employment in battlefield formations with the Main Battle Tank of the time period."

— Materiel Needs Statement for an Infantry Fighting Vehicle, 2 March 1978

While we cannot go back in time to sit in on the acquisition process and listen to the in-depth discussions that resulted in the vehicle we now know as the M2 Bradley, we can be fairly confident little consideration was given to its use in an urban environment. The original Bradley Needs Statement quoted above is filled with considerations for an open field battle that would allow our infantry and cavalry to keep pace with the M1 Abrams main battle tank while simultaneously providing protection and a certain amount of firepower. A quick scan of the doctrine that incorporated the new Bradley into the battlefield reveals an emphasis on high mobility and firepower in a wooded environment against the massed armored formations of the Soviet Union. Very little discussion can be found on the use of the Bradley against an enemy in and around urban sprawl. The developmental and doctrinal documents do not speak of movement through confined areas, short range engagements, high speed road movement or knocking down walls. Yet, this is precisely what the Bradley fighting vehicle does today in support of Operation Iraqi Freedom.

Recently, I had the opportunity to travel with the Abrams and Bradley Product Managers (Lieutenant Colonel Mike Flanagan and Lieutenant Colonel Andy Contreras) during a survivability assessment of the M1 and M2 in support of Operation Iraqi Freedom (OIF). We visited 10 Bradley-equipped battalions and interviewed more than 100 Soldiers. Officers and enlisted personnel, master gunners and company commanders, gunners and Bradley commanders all provided comments and suggestions on how they employed their Bradleys in an urban environment and how we can make the vehicle more effective in urban operations. Each unit visited had a unique story to tell. While they had similar sets of missions to accomplish, the varied nature of the threat and environment gave every unit a distinctive perspective on how to accomplish those missions. However, one common thread appeared wherever we traveled: Soldiers love their Bradley fighting vehicles. Whether an A3 or an ODS version, the Bradley is the "hands-down" weapon of choice for operating in the current OIF environment.

The Bradley brings many assets to the urban operation. Fitted with reactive tiles, it is survivable against many anti-armor weapons, improvised explosive devices (IED) and small arms fire. The M242 Bushmaster and the 7.62 COAX machine gun creates a lethal combination in destroying and defeating IEDs, masonry and RPG threats. In some cases, the shock effect alone of a 25mm attack can prevent further attacks on our vehicles. The Bradley's greatest success, however, is the combination of the Improved Bradley Acquisition Sub-System (IBAS) and the Commanders Independent Viewer (CIV), both 2nd Generation Forward Looking Infrared, on the M2A3. Designed as a hunter/killer system to defeat multiple enemy armored vehicles at maximum ranges, it also allows for buttoned up movement through urban areas. Giving the vehicle superb situational awareness while simultaneously providing maximum protection for its crew and infantry squads makes the M2A3 the most lethal and versatile machine in the urban environment.

Improvements

In life, there is always room for improvement. The Bradley is no exception. Every Soldier interviewed commented on how to further equip the Bradley to better adapt to the urban environment. It usually started with: "Don't get me wrong, Sir. I love my Bradley. But what I would like to see is …" Some of those insightful comments include:

* One of the most prevalent comments made, was the need for a stabilized machine gun for the Bradley Commander (BC). This allows for suppression of a close-in target, while the gunner engages elsewhere. It also provides vital coverage for vehicles in the trail of section/platoon movements. What this entails for the M2A2 is a ring mounted, flexible machine gun, possibly fitted with a transparent gun shield. The M2A3, however, requires a more complex solution. The M2A3 crews are very enthusiastic about getting a machine gun coaxially mounted to the CIV, again providing suppression on a target while the gunner engages elsewhere or the turret is slewing to engage with the main gun. A commander's machine gun, even one with a small caliber, that covers a secondary field of fire, gives a whole new aspect to the lethal coverage the Bradley ODS and A3 could provide in an urban area.

* The M240C has achieved a new importance in the current

A Bradley fighting vehicle from the 1st Infantry Division moves into an overwatch position at a traffic control point outside Ad Duluyiah, Iraq.

environment. It has often become the weapon of choice due to the need to keep collateral damage to a minimum in some situations. The COAX machine gun therefore requires a greater basic load and improved access.

* M2A3 units have been bending 25mm barrels. One of the disadvantages of buttoned-up operations is the loss of barrel situational awareness. A shorter, 'Urban Operations Barrel' may be a solution due to the shorter ranges needed in that environment.

* M2A3 crews want a redesigned Gunner's Hand Station. The Auto Track Button (located on the Hand station) is rarely used in urban areas, but the Zoom Button (located on the Gunner's Sight Control Panel) is in constant use. Gunners request these two buttons be reversed.

* The Turret Emergency Evacuation Cable, attached to the Commander's Hatch, allows the driver to open that hatch if either of the turret crewmen are incapacitated and unable to open the hatch. However, since the Commander's Hatch only opens to the first pop position, it requires a Soldier to reach in to completely open it. Attaching the cable to the Gunner's Hatch, which fully opens upon release, would be more beneficial for rapid access to the crew in an emergency situation.

Gunners request several improvements to their cramped world:

* Add a storage box behind their head to store equipment (spare hand mikes, etc.).

* Remove the back pad: it pushes them forward into the sight while wearing body armor (many have removed it themselves).

* Increase the padding for their seats (12 hours on the present seat greatly degrades effectiveness).

* Move the radio. Commanders continuously exit the turret and knock it out of the correct frequency.

* One unit attached M88 searchlights to their vehicle. It has been an asset in poorly lit areas. They request a high-powered, directional searchlight mounted near the commander's hatch to illuminate shadowed areas.

* Climate control, especially for the buttoned up M2A3s, is essential. Crew and equipment functionality depend on it while in a hot desert climate.

* Develop a less bulky, crewmember's body armor. The straps of the current body armor catch in the turret.

* Develop a stronger, more reliable Engine Access Pump, which are breaking due to the added weight of reactive tiles.

* Crews require a stronger Drift Pin. Very few crews have them anymore due to their high breakage rate.

* Power line protection is needed. Some units fashion rebar over their hatches to push power lines over the top of the turret and prevent catching low hanging wires on the vehicle or injury to the crew.

* Some crews state the front reactive tiles and the headlights are getting damaged from using their vehicle as a "Bradley Fighting

Battering Ram." A breaching bar attached to the front to assist in 'wall-busting' would be helpful.

Training

Now that we have proven the capability of the fighting vehicle in an urban environment, it is time to ensure the crews within them are properly trained. One glaring deficiency in this area is the inability of our Conduct of Fire Trainers (COFT) to replicate the urban environment and the encountered threat. The good news is that deficiency is currently being rectified with development of an urban environment for both the COFT and the Close Combat Tactical Trainer (CCTT). While much information was gathered during the tour on how to best replicate the environment, one theme was prevalent: the CCTT is the preferred method for training urban operations. Due to the close proximity of vehicles and the need to utilize wingmen to cover the numerous avenues of approach in an urban environment, a single crew trainer does not accurately replicate all of the coordination needed to properly train scanning/gunner techniques. The best use of a COFT with an urban environment is to train gunners/commanders on rapid identification, short fire commands and familiarization with the 360-degree aspect. Then they will need to hone those skills with their wingmen and platoons in the CCTT, which allows for proper team scanning coverage, the BC's 'heads up' view (essential with high buildings) and the use of a driver. The driver has become more important than ever in obstacle avoidance, threat identification and anticipating how the Commander wants to negotiate along narrow streets.

While it will never receive the title, "Ultimate Urban Warrior," the Bradley fighting vehicle and its' crews have proven their worth as a great Army asset in the Global War on Terror. Its survivability, lethality and mobility allow the Bradley to achieve results in an urban environment far beyond what its designers could have predicted. Those designers, developers, builders and Soldiers all associated with this vehicle should be proud with the product they have created, maintained and utilized.

But let's not stop there. Agree or disagree with anything in this article? Have further comment or ideas to make a better Bradley. As the Assistant TRADOC System Manager for the Bradley, I can assist you to make your vehicle the most capable fighting vehicle in the world. Please e-mail me at gary.linhart@benning.army.mil. Your comment can make a difference.

Lieutenant Colonel Gary Linhart has served as the Bradley New Equipment Training (NET) Commander; 1st Battalion, 29th Infantry Regiment executive officer; and the 29th Infantry S3. He is currently the Assistant TRADOC System Manager for the Bradley.

Special thanks goes to the Project Manager-Bradley Team for their assistance in gathering information for this article: Lieutenant Colonel Andy Contreras, Major Scot Greig and Master Sergeant James Foneville.

RANGER NOTES

REDEFINING RANGER SCHOOL

COMMAND SERGEANT MAJOR DOUGLAS M. GREENWAY

Winning, never quitting, never stopping, completing the mission, busting down the walls and kicking in doors, standing and finishing after being knocked down, driving on when most would have long before given up, this defines the spirit and attitude of the Ranger.

Since Ranger School's inception in 1950, the RTB has produced well-trained, adaptive close-combat leaders. Over the years, we have made minor adjustments to the school's program of instruction (POI) while always remaining focused on teaching the basics and fundamentals of close combat and the warrior ethos. Those fundamentals don't involve shooting one live round. Ranger School focuses mainly on the basics of taking on miserable situations. These situations involve sleep and food deprivation, steep and nasty snake-infested terrain, stress-inducing Ranger Instructors, and, worst of all, a chaotic melting pot of inexperienced Ranger students that don't care about anything until they are in a leadership position. It is about each student leader being in that situation for at least 61 days. When they have finished, no matter what they are confronted with, they understand that the mission must be completed. The question is, should we adjust our POI to hone more valuable skills these men need to support our Army at war? If I were a platoon sergeant, would I be confident to send them into war after Ranger School?

Recently, our nation has adjusted its focus from set-piece engagements with discernable fronts and an easily recognizable enemy to conducting military operations against transnational threats in a noncontiguous and ambiguous environment. Accordingly, the Ranger Training Brigade is considering augmenting Ranger School's POI to better prepare leaders to defeat current and future threats.

At the same time, however, we must be wary of "refighting the last war" by making drastic, quickly initiated changes to our POI without regard to the future of close combat. Recent enemy action has precipitated significant changes in our military's training and preparation for combat operations. At Ranger School, we must always be mindful that our nation's enemies will adapt and change. Likewise, the environment in which we fight is ever-changing. It would be ill-advised to focus solely on a single environment knowing that engagements over the last 20 years have found U.S. forces in every conceivable environment from extreme cold-weather to desert and built-up areas to mountains. What has not changed – what will never change — is the need to provide the Nation with capable, dependable self-confident combat leaders. Therefore, any proposed changes to Ranger School must never dilute our mission of teaching the basics and fundamentals of combat operations.

While retaining our concept of being a fundamentals and principles based school, the Ranger Training Brigade is currently examining all facets of our instruction for ways to better prepare Ranger School graduates for combat operations. Current proposals under consideration include the following:

☐ A marked increase in Urban Operations missions — The students will operate in and around built-up areas, learn urban breaching techniques, conduct cordon and searches, and conduct selective room clearing. This
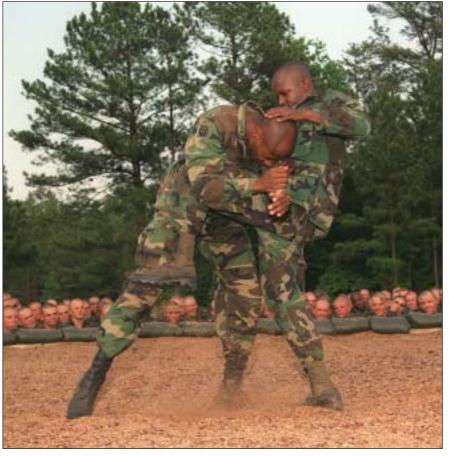
training would pay dividends as graduates would teach the most current doctrine and techniques to their squads and platoons at home station.

☐ Integration of mobility operations — The students will conduct some missions mounted and must properly plan and execute convoy operations. They must react to IEDs and near ambushes and be prepared to conduct a hasty attack. All too often, leaders have little exposure to realistic combat convoy operations prior to deployment. Through the concept of chain-teaching, graduates would be able to impart their knowledge on their units.

☐ Integration of civilian role players — The students will be exposed to additional guidance on the Laws of Land Warfare, operate under a restrictive ROE, and encounter media and civilians during combat operations. Additionally, the RTB is considering conducting "media train-up" where actual journalists would join the students during a phase and act as an embedded journalist. The benefits are two-fold: the students would learn to operate with media present in a consequence-free learning environment while the journalists would learn the basics of combat operations in order to better understand the role and actions of the Army. This program would alleviate the need for the precarious "on the job training" that many Soldiers and journalists face in GWOT.

☐ Increased prerequisites — Although the current prerequisites for admittance to Ranger School remains the same, we are currently assessing the need to add combat lifesaver (CLS) certification and Skill Level 1 Combatives training as necessary skills that students must possess

U.S. Army photo

Ranger School officials are assessing the need to require combat lifesaver and combatives training as prerequisites. This would allow Ranger Instructors to build on this base to improve the student's medical training and hand-to-hand combat proficiency.

before they are admitted. The addition of these skills would allow Ranger Instructors to build on this base to improve the student's medical training and hand-to-hand combat proficiency.

☐ Renewed emphasis on marksmanship — Students would learn the fundamentals of close quarters battle (CQB) through extensive train-up program culminating in a shoot-house live-fire. Marksmanship has given U.S. forces a decisive edge over our enemy's, yet many units are lacking marksmanship subject matter experts.

Renewed emphasis on medical training. Students would learn advanced techniques to keep wounded Soldiers alive. As we have seen in GWOT, the separation of forces necessitates Soldiers being trained to treat wounded comrades. Students would be exposed to the most current medical equipment and techniques and show proficiency on a variety of medical tasks

throughout the course.

We have not and will not make any major changes to Ranger School for the time being but the contemporary operating environment compels us to adapt to the current threat and consider updating our POI. Ranger School will always be grounded in the basics and fundamentals of combat. The proposals outlined above are intended to reinforce and enhance, never replace, the core principle of Ranger School — no matter what the distance, no matter what the odds, no matter what the environment, well-trained, well-rehearsed and disciplined Rangers will defeat every threat in every engagement. Ranger School will remain a rigorous, mentally and physically challenging environment where only those students fully committed to meeting unwavering standards will graduate.

To better provide realistic training that is relevant to today's contemporary and future threats, we encourage input from units currently serving in or recently redeployed from OIF and OEF. Please contact the RTB S3, Major Michael McNally, at Michael.McNally@benning.army.mil with recommendations.

Regardless of what initiatives we integrate, the Ranger Tab will remain a mark of excellence; tangible evidence that the bearer is a trained leader whose legacy is that of a warrior who has never let our nation down during a time of need. We will always provide the Army with tactical leaders that excel in the unforgiving environment of combat and remain the best life insurance policy a Soldier can get before going to combat for himself and his men.

THE FIRST ENEMY YOU MEET:

Acclimatization and the Mastery of Desert Heat

BRIGADIER GENERAL MICHAEL WALTER
COLONEL CHARLES W. CALLAHAN
CAPTAIN MATT HING

If you deploy to Operation Iraqi Freedom next summer, before your Soldiers cross the border and head north, they will face an enemy that has defeated a significant number of Soldiers moving into theater this year. Between July and August 2004, the hottest months in Kuwait, 134 Soldiers were reported as heat casualties in Kuwait and were lost from training. It is likely that the actual number is underreported by as much as 80 percent, and the true number of injured Soldiers may be as much as five times higher. The rate of reported heat injury per week peaked at 20 per 10,000 Soldiers in mid-July. Each heat casualty was lost to his or her unit for two or more days out of an already tight training schedule. Three of the Soldiers were likely lost to the fight permanently. These three developed heat stroke, two from the same unit within days of one another. They survived but were evacuated from theater, unlikely to return.

As the medical brigade in theater, we know in advance the schedule of units moving into the northern Kuwait camps. We could tell regardless when a new infantry unit moves into theater because of the bump in the number of heat injuries. Level II medical facilities at the camps typically began seeing heat casualties within the first week of the unit's arrival. The Soldiers we interviewed reported that they felt that exposure to heat in the summer months in the United States had prepared them sufficiently for deployment to Kuwait and Iraq. Nothing could be farther from the truth, as the conditions in the desert of Kuwait and Southern Iraq are not duplicated anywhere in the United States. We also heard more than once, "But I was drinking water, doc." Adaptation to this harsh desert environment is more than a matter of simple hydration. Water consumption is only one part of the process.

Soldiers in the desert are exposed to environmental heat stress through a combination of factors. Soldiers training vigorously in desert environments wearing individual body armor (IBA) and Kevlar generate heat from burning up to 6,000 kilocalories a day. (One kilocalorie is the heat energy needed to raise one liter of water one degree Celsius.) The Soldiers generate a great deal of heat, but unfortunately, desert conditions do not favor heat loss, which normally would occur through a combination of four different mechanisms.

Convection is heat transfer by the movement of a gas or liquid over the body.

Combined Forces Land Component Command Public Affairs Office photos

Soldiers train in Kuwait prior to entering Iraq. The desert heat is among the first things Soldiers must master.

This is the primary means of the terrific heat loss that occurs with prolonged exposure of Soldiers to cool or cold water. A breeze feels cool in part from this effect. In the desert, the air may be as much as 30 degrees higher than the Soldier's body temperature. This July, the average temperature in the major Kuwait training range was 115 degrees (46°C) with a high of 135° (57°C), and the wind was typically up to 15 mph - a combination that results in significant heat stress.

Radiation is heat transferred from objects whose temperature is hotter than the Soldier: the sun, sky, large metal objects, or the ground. In Kuwait, from April to October the UV Index (ultraviolet index, a measure of the sun's irradiance in watts per meter squared) generally is in the "very high" to "extreme" range (8-11) and is typically 10 or 11. The mean UV Index across the southern United States in August is 7-9. The Soldier gains heat from the sun, from the heated desert sand, and the metal vehicles.

Conduction of heat is the transfer of heat though direct contact with an object. In the desert sands, heat is conducted through the ground and various combat equipment. For example, direct contact with surfaces exceeding 114 degrees produces pain and temperatures above that will burn in a very short period of time.

Heat loss from the body occurs primarily through the evaporation of sweat. The dry air of the desert, where the relative humidity is 10 percent, promotes the evaporation of sweat. However, sweat trapped near the body in cotton undergarments and uniform blouses below the IBA cannot evaporate due to lack of no air circulation. While adequate hydration insures that the Soldier will sweat enough, the mechanism is thwarted by a saturated uniform. In Soldiers who have not acclimatized adequately, sweat production will actually decline if the skin is wet, further blunting these cooling mechanisms.

Several large infantry and combat support units trained in Kuwait this summer in preparation of operation in Iraq. Most suffered significant effects from the heat. One unit evacuated as many as 10 percent of its Soldiers to the Level II facility in a single day.

However, medical surveillance of armed forces in Kuwait (conducted by 8th Medical Brigade) indicates that the 2nd Brigade Combat Team (BCT) of the 2nd Infantry Division was able to avoid significant heat injury altogether. Under the command of Colonel Gary Patton, the 2nd BCT deployed to Kuwait in late summer of 2004 – peak months for heat injury. While a small number of Soldiers received intravenous fluids on firing ranges for treatment of volume depletion, there were no reported cases of heat exhaustion or heat stroke. The unit's overall approach to heat injury prevention has been primarily based on acclimatization.

Acclimatization is the process by which the body gradually becomes physically conditioned to working under the extreme temperatures of a harsh environment. The human body adapts to extreme heat in a number of ways. First, the body's basal metabolic rate declines during acclimatization. As a result, the baseline core temperature also lowers. The body sweats much sooner in reaction to heat exposure — at a higher rate and from more of the body surface (for example from the arms and legs.) The blood flow to the skin increases and thereby allows heat to escape by evaporation and convection. Second, the heart beats more slowly,

Table 1 - Strategies for Heat Acclimatization
1. Mimic the deployment climate if possible.
2. Ensure adequate heat stress in preparatory training:
a. Train to the point of sweating
b. Using exercise and rest to modify the heat strain
c. Schedule 4-14 days of heat exposure
d. Train in the heat at least 100 minutes a day
3. Begin at least one month prior to deployment:
a. Be flexible with training
b. Build confidence in Soldiers
c. Pursue optimum physical fitness in the current climate
d. Integrate acclimatization into training schedule
4. On arrival to desert:
a. Start slowly at reduced training intensity and duration
b. Increase heat exposure and training volume gradually
c. Acclimatize in the heat of the day
d. Train in the coolest part of the day
e. Use work/rest cycles or interval training
f. Ensure that Soldiers eat and sleep adequately
g. Provide special monitoring for Soldiers at increased risk
i. Poor physical training
ii. Excessive body weight
iii. Skin conditions like severe acne
iv. Soldiers on medications
v. Soldiers with other illnesses ("cold" or "stomach flu")
vi. Soldiers with previous heat injury
(Modified from "Heat Stress Control and Heat Casualty Management - TB MED 507/AFPAM 48-152(I) HQ, Dept of Army and Air Force, March 2003)

while simultaneously pumping a greater volume of blood. Third, the blood pressure becomes more stable and the function of the heart muscle improves. Finally, fluid balance as regulated by the brain becomes more efficient as the thirst mechanism becomes sensitive. These mechanisms result in a higher total body water concentration and, ultimately, greater conservation of fluid.

The process of acclimatization for the Soldiers of the 2nd Brigade, 2nd Infantry Division began in Korea before their deployment. They trained all summer in Korea in the field, though high temperatures and high humidity, in IBA with SAPI (small arms protective insert) plates and Kevlar. On a typical August day in Korea, the temperature is 88 degrees (31°C) and the relative humidity ranges between 60 and 90 percent. When the unit reached Kuwait, they began split cycle operations. All units were given a few down days to get settled and recover from jet lag. Administrative meetings and equipment issue occurred in air conditioned tents.

When training commenced, it was conducted from 0400-1100, breaking every afternoon, and then resuming in the cooler, early evening hours. Maintenance operations were also conducted at night, as it was too hot to work around heavy metal during daytime. Soldiers deployed in excellent physical condition, and continued fitness programs were conducted in early morning and evening, scheduled around other training.

Soldiers received personal training on the heat threat. They learned to recognize the symptoms of early heat insult in themselves and their fellow Soldiers, and were empowered to take action. Leaders saw many examples of Soldiers taking buddy actions at the first sign of heat impact, rather than allow it to develop into a serious casualty. For example, Soldiers were allowed to check themselves off of the firing line to sit in the shade when they began to feel effects of heat.

An untrained, ill-informed Soldier might have tried to "Soldier" through this, and become a heat casualty. In fact, research has demonstrated that the poorly conditioned Soldier and the exceptionally fit Soldier are both at risk to become heat injuries. The former becomes a heat casualty from poor conditioning. The latter becomes a casualty from attempting to allow excellent conditioning to compensate for inadequate acclimatization. Medical providers and key leaders in the 2nd BCT are well aware of the pitfalls of both profiles.

The unit also took the usual steps to stress hydration. Every Soldier was issued a camelback. It was a mandatory part of the uniform for the months prior to deployment while still in Korea. In addition, cold water and Gatorade were available to the Soldiers. Importantly, these disciplines were modeled by the leaders at every level. An additional example of leadership emphasis was the stress placed on the use of lip balm and sunscreen. Special unit patches were sewn on the desert camouflage "boonie" caps to encourage all Soldiers to wear them to reduce exposure to direct sunlight. Strategies for successful acclimatization are summarized in Table 1.

Overall, the 2nd Brigade Combat Team took more time to acclimatize and thus was

The 2nd BCT, 2nd Infantry Division, took more time to acclimatize and thus was better prepared for the desert environment than any other unit observed in the summer of 2004.

better prepared for the desert environment than any other unit we observed in the summer of 2004. The strategy they applied was one that could be easily duplicated by any unit deploying to the desert, particularly in the summer months. It is based on acclimatization, a process that begins at home station well before the mobilization process. The key leaders in 2nd BCT aggressively planned for acclimatization of all personnel in their training schedule both in Korea and in Kuwait. Command emphasis on basic measures to reduce unnecessary heat exposure is necessary for overcoming the heat threat and involves empowering Soldiers to monitor their own progress to the greatest extent possible using the buddy system. Heat injury prevention begins with effective leadership role-modeling behavior. In a combat environment with so many unpredictable hazards, heat injury prevention is a force multiplier worthy of command emphasis.

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Brigadier General Michael Walter is the Commanding General of the 8th Medical Brigade (Forward) in Kuwait and the Combined Forces Land Component Command Surgeon. He is a veteran of Desert Shield/Desert Storm and as a civilian, is the Chief of Gastroenterology at Loma Linda University in Loma Linda, California.

Colonel Chuck Callahan is the Chief of Professional Services of the 8th Medical Brigade (Forward) in Kuwait. He is a former infantry officer, who is currently stationed at Tripler Army Medical Center where he serves as Chief of the Department of Pediatrics and the Pediatric Consultant to the Surgeon General.

Captain Matt Hing is a graduate of Uniformed Services University of the Health Sciences, Class of 2001. He completed internship in Family Practice at Tripler Army Medical Center in 2002. He is currently assigned to the 2nd Brigade Combat Team, 2nd Infantry Division as the Brigade Combat Team Surgeon.

The Tactical Shotgun in Urban Operations

CAPTAIN RYAN J. MORGAN

My air assault infantry company faced many challenges during Operation Iraqi Freedom. Not the least of which was the fact that we knew we were going to be entering and clearing buildings in urban settings. These buildings varied in size and shape from the standard home with an outer wall and gate to multiple story universities and hotels. Through it all, the infantry squads tasked with entering and clearing these complex structures preformed superbly, by adapting to the situation and always completing the mission.

The shotgun proved to be a very useful weapon for my company. We conducted urban operations in five cities during Operation Iraqi Freedom. For all of these missions, the shotgun was the most versatile weapon in our arsenal. The problem was we only had two in the company. This caused either the squad and platoon to slow down their momentum to bring the shotgun forward, resulting in that Soldier becoming worn out; or conducting breaches by continuous pounding on a lock or a door, a means that did not allow for surprise. The bottom line is that the shotgun should be a squad weapon. Each squad leader should have the option of this weapon in his squad.

Breaching doors or gates does not have the same emphasis placed on it that the actual room clearance does. Traditionally, field manuals covering this training have Soldiers go through the motions; very little, if any, hands-on training is done for breaching doors and locks. FM 7-8 does not address the "how to" of breaching a door, it merely states that the "squad enters and clears all subsequent rooms…" The reasons for this are many. There may be a shortage of locks to practice cutting, or range control may not allow units to shoot their doors on the shoot house. Time

might not allow a unit to shoot and rebuild doors for every squad. There is never enough demo to practice breaching outside of inert training aids. However, based on observation and experience in Iraq, I see an easier way: the tactical shotgun. Thankfully FM 3-06.11, *Combined Arms in Urban Terrain*, finally gives some emphasis and explanation on some of the "how-to's" of breaching. FM 3-06.11 explains the three types of breaching: ballistic, explosive, and mechanical, with the majority of its two pages belonging to ballistic breaching.

In Iraq

During urban operations in Iraq, 90 percent or more of the door breaches executed by my infantry squads were with a shotgun. We did have other means of breaching, one being a mechanical breach with the Hallagan set, also known as hooligan tools. This is a set of tools carried by a Soldier consisting of a lightweight sledgehammer, a small set of bolt cutters, and of course the Hallagan tool. The Hallagan breaching tool is a modified crowbar made of non-sparking material with an extra spike and a wedge shaped adz at one end for additional prying and leverage. It also has a fiberglass shaft with a rubberized grip, which is nonconductive and reinforced for large prying jobs. The Hallagan tool works very well with wooden doors and other weak barriers, however, it is less effective on metal doors and gates. Another tool is obviously demo. Demo was in short supply for breaching due to the large amount of weapons caches we were destroying. The resupply for demo was unreliable and unpredictable, and squads had to find an alternative. An infantryman's shoulder will also work as a breaching tool; however, this technique can
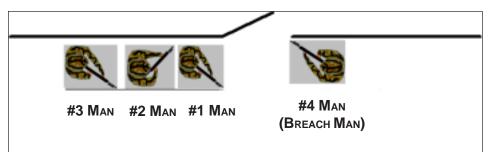
Figure 1

become painful while also entering into the realm of the breach man entering, if not stumbling, into the room first. I believe that most infantrymen would deem that unacceptable. All of this leaves us with the shotgun.

Our battalion's shotguns are organized to HHC. As deployment drew near, the company commanders requested that two shotguns be signed to each line company for an alternate means of breaching. The train up, in country, for using the shotgun in the platoon was limited to reflex drills and techniques, tactics, and procedures (TTPs) of a collective group of former Ranger battalion Soldiers, former police officers, and others who had some training with a shotgun. So, as we crossed the border into Iraq, each company had four to six Soldiers trained in the limited use of the shotgun in a tactical environment.

Understand that the nine-man squad outlined in manuals for infantry tactics is the exception rather than the rule. In my company, the only full squads were the weapons squads. The norm was a seven-man squad. Therefore, the TTP that my company used in employing the shotgun is as follows. In a stack, the breech man was the last numbered man (Figure 1).

The breech man carried the shotgun in addition to his primary weapon, the M249 SAW. Room clearing is a precision drill, and neither the SAW nor shotgun are precision weapons. In this case the breech/shotgun man stands to the opposite side of the door that the clearing team is stacked on. Depending on the direction of travel and which way the door opens, the breach man may stand at the front of the stack, moving after he breaches the door. Holding the shotgun at a 45-degree angle in relation to the door jam and away from his body,

the breech man fires rounds into the door either at the door handle and deadbolt lock or the hinges. When firing at the doorknob, the point of aim should be into the door jam at the approximate location of where the plunger connects to the strike box. (See Figures 1 and 2).
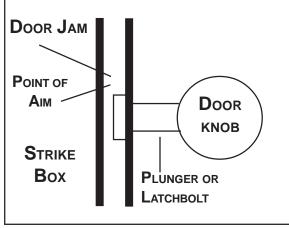

Figure 2

If the door breach requires that the hinges be shot out, the preferred method is to start with the top hinge and work down. The point of aim should be such that the maximum number of hinge screws are destroyed with one shot. The shot should go through the hinge and into the door jam (See Figure 3).

When called to conduct a breach, the breach man moves into position, loads the first round, then fires. If it is determined that another shot is required the breach man will load another round and fire. The firing sequence should be aim, load, fire, reload, fire, etc... After the last shot is fired, the shotgun

should not have another shell loaded into the breech. After this sequence, the door is kicked in, and the team enters and clears the room with the breach man taking up the last position in the stack.

The shotgun should be carried on a sling that allows it to hang on the Soldier's body where it is readily available to switch with the Soldiers primary weapon. Not being under direct control of the Soldier (i.e. the Soldier not holding it), the shotgun is susceptible to getting caught on obstacles or equipment and the Soldier runs the risk of the weapon being discharged. If there is not a shell loaded in the breech, this is not a problem, hence, not reloading the weapon after the last door breeching shot. The safest way to carry the shotgun is with the breech closed, hammer forward, chamber empty and on fire. (This also leads to have a pump action over an automatic shotgun.)

When deciding what kind of shotgun to use, it is important to have one that has two distinct characteristics. First, it should not have a overly long barrel, the shorter the better. This reduces the possibility of flagging the weapon or just having the barrel getting in the way. Second is the need for a collapsible or even no stock. Like the M-4 over the M-16, in close quarters, shorter is better and easier to handle.

The proper equipment is essential for the Soldier carrying the shotgun. First of all, a sling that holds the weapon close to the firing side of the Soldier allows him to reach to that side and bring the weapon up without readjusting his primary weapon. The sling needs to be attached to the weapon at the butt stock or near the trigger
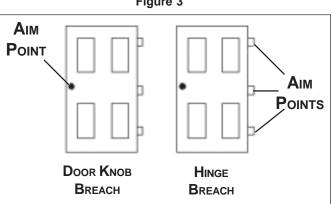
Figure 3

assembly. This allows maximum range of motion without any excess sling getting in the way.

The right type of ammunition must be available to the unit. While buck and birdshot will work, these are the least preferable for breaching operations. For door breaching, the load of choice for many SWAT teams is a frangible slug. A frangible slug is specifically designed to defeat locks and hinges without penetrating into the room. This significantly reduces the collateral damage inside the room. If the frangible slug is not readily available, number 9 shot will work. This size of shot will also reduce the collateral damage on the inside of the door.

A frangible slug cannot be employed effectively if the muzzle of the weapon is touching the door. Therefore a stand off device should be used to create the desired effect. One type of standoff device is a metal rod that attaches to the magazine tube. Another is called a Breacher Device. This attaches to the muzzle of the weapon and resembles a flash suppressor or compensator. The breacher allows for the weapon to be placed on the surface of the door and fired without worrying about muzzle blow up. The breacher will reduce approximately 80 percent of the muzzle gas pressure that results when a shotgun is placed against a solid door.

NOTE: If you are employing shot without a Breacher Device, it is better to place the muzzle of the shotgun firmly against the door to reduce splattering.

A flashlight is also essential for the shotgun. Operations conducted during limited visibility or inside a building with no electricity require the Soldier to have an illumination device. Shotguns may be modified with a flashlight on the magazine tube or the side of the barrel.

Marksmanship and familiarization training with the shotgun must be integrated into a platoon's weapons training the same as an M4 or an AT-4. It is a weapon system that every man in the platoon must be able to use and employ effectively. A good familiarization plan is in RTC 350-1-2. This outlines the step-by-step process from loading, firing, reducing stoppage, reloading, and clearing to target drills, and finally door breaching training. The shotgun is not the primary weapon of the Soldier carrying it, therefore, he must be able to transition smoothly back to his primary weapon. Also, while the shotgun is not a precision weapon and is not the best choice to clear a room it may become necessary for the shotgun man to engage targets. The RTC provides a basic target drill for training this skill.

A further use for the shotgun is in stability and support

Staff Sergeant Joseph Roberts

Specialist Freddy Ojeda, a Soldier with Headquarters Company, 1st Brigade, 1st Infantry Division, provides security during a mission in Al Ramadia, Iraq.

operations. Having a shotgun task organized to a squad gives that squad the ability to employ nonlethal or less than lethal munitions. Having beanbag shot or rubber slugs is a benefit when confronted with a riotous crowd. The shotgun in and of itself is an intimidating weapon, and it will get the attention of a crowd by merely chambering a round. My Soldiers would many times use an unloaded shotgun for this very reason. We found that people responded very quickly and quietly when they heard the chalking of the shotgun.

Throughout Operation Iraqi Freedom's combat and stability and support operations, the tactical shotgun proved a useful and versatile weapon. It is my belief that the shotgun should become a permanent addition to every infantry squad's arsenal. This change will increase the effectiveness of the infantry squad across the spectrum of missions they are required to perform.

Captain Ryan Morgan is a 1997 graduate of the U.S. Military Academy at West Point. His previous assignments include serving as a Bradley platoon leader, heavy mortar platoon leader and company executive officer with the 1st Battalion, 8th Infantry at Fort Carson, Colorado. He also commanded Charlie and Headquarters Companies of 2nd Battalion, 502 Infantry Regiment, 101st Airborne Division (Air Assault) during Operation Iraqi Freedom. CPT Morgan currently serves as an assistant XO in the Futures Center, Training and Doctrine Command.

A Quick Guide to Getting Your Supplies in the Iraqi Theater

Lessons Learned from the Theater's Only Corps Distribution Center

MAJOR BRIAN MCMURRY

"Hey, I ordered some stuff and I haven't received it yet. Someone told me it's in the Corps Distribution Center."

Logistics in an asymmetric environment is different than it was on a linear battlefield. The primary difference in today's asymmetric environment such Operation Iraqi Freedom is that logisticians are more concerned about managing distribution (the flow of supplies) instead of managing stocks (stockpiles). At the tactical level, higher-level logistics and distribution theory does not mean a lot when you order Bradley track or night sights for weapons, and you needed it yesterday. After a year of serving as the support operations officer for the 319th Corps Support Battalion and officer in charge of the Iraqi Theater's only strategic logistics hub — the Corps Distribution Center (CDC), I have witnessed and learned a lot about how cargo and unit requisitions move on the modern battlefield. After all, there is much to be learned from processing about 1.17 billion pounds of cargo from the more than 90,000 trucks that have transited across the Iraqi theater. The first place any search for parts or items requisitioned should be your unit level logistics (ULLS) clerk or local supply support activity/forward distribution point warehouse. However, if this fails, having a rudimentary understanding of how cargo moves through the Iraqi theater enroute to its final location can and will provide extremely useful.

The Iraqi Corps Distribution Center serves as the hub or point of entry and disbursement of all supply items minus ammunition and blood. Daily, the CDC will average 250 forty-foot trailers averaging 20 short tons of cargo per truck.

In raw numbers, this is approximately 1 million pounds of cargo processed per day with various assortment of air force pallets (463L), 20ft milvans, 40ft milvans and major assemblies (e.g. engines). The CDC in Iraq serves more than 15 supply support activities, 10 repair facilities, eight major forward operating bases and more than 160,000 Soldiers. Busy operation? You bet. With so much daily activity is there a margin of error? The answer is yes, and at the time of this writing, the CDC averaged less than 10 percent error rate, down from 30 percent from OIF I.

We have all been victim to the "where is my stuff" stand-offs with bosses who wanted items yesterday. Getting what you want in Iraq is a little different than at one of the larger military installations such as Fort Hood or Fort Bragg. For starters, the mere fact that lines of communications (road networks) have more similarities to scenes from "Mad Max" than Interstate 70 indicates cargo will move a little slower. But knowing how to track cargo and how to insure your cargo has the right identification is more important than the actual conditions of road networks. Cargo into Iraq essentially enters via two modes, road network from Kuwait or air movements from CONUS, Kuwait, or Germany. When shipments arrive into Iraq, they will enter into a distribution hub. For OIF II, there was one hub located in Balad, Iraq (Logistics Support Area – Anaconda). Future OIFs will most likely have more than one distribution node.

Regardless of where these distribution centers are located they all track cargo the same. The primary means of receiving, sorting, cross loading (from one stake and platform trailer to another stake and platform trailer) and onward moving cargo is by Department of Defense Activity Address Codes (DoDAACs).

Know your Zip Code to Success

Like your mailing address at home, in the Iraqi Theater, supply items are distributed based on a customer unit's DoDAAC. The DoDAAC is essentially your zip code; if correct you will get your cargo, if not you will be subjugated to "frustrated cargo" purgatory. A DoDAAC is a unique six-position, alphanumeric code assigned to identify a specific unit, activity or organization that has the authority to requisition and/or receive materiel. The first position designates the particular service/agency element of ownership. The DoDAAC serves as the mailing address for sustainment stocks. Items are identified and moved onward primarily by the requesting unit's DoDAAC. One of the most common mistakes or shortfalls in terms of moving cargo is a missing or erroneous DoDAAC. When items come in without a DoDAAC, they will most likely end up in a "frustrated cargo" area to wait final disposition from CDC expeditors. Know your DoDAAC; and before you deploy check to see if your DoDAAC is registered. You can check your TAC addresses on the Internet by going to https://day2k1.daas.dla.mil/daasinq/dodaac.asp.

Getting the Shipping Instruction Right the First Time

The old adage an ounce of prevention is worth a pound of cure…while passé is very appropriate. Correctly documented cargo will have either a military shipping label (MSL) (See Illustration 1) or a material release order (MRO) (See Illustration 2). It is not unusual to have cargo/parts to have several bar code labels on the exterior package. Many times the bar code labels serve only the original equipment manufacture (OEM) purpose. However, this can cause problems as they populate a box or freight that is already heavily labeled even more marked.

There really isn't a way to prevent this, just understand that not all bar code labels are created equal. In order to understand
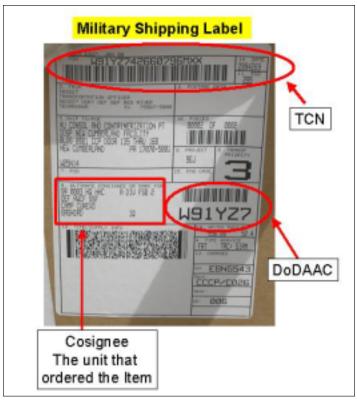
Illustration 1

distribution you have to understand the MSL'ology and MRO'ology. These two items represent the physical representation of distribution and cargo (parts) flow. The MSL is critical to transporters/shippers because it contains the transportation control number (TCN). The TCN is a 17-digit number used to track and control the movement of equipment and supplies during transport. The TCN for each shipment is unique and not duplicated. For shipments other than SEAVANs and personal property, the 17-character TCN is essentially a four-part number composed of a DoDAAC, Julian date, serial number, and suffix. The first three parts of the TCN for Military Standard Requisition and Issue Procedures (MILSTRIP) shipments are normally the requisition number, found on such documents as the DD Form 1348-1A (Issue Release/Receipt Document), DD Form 1149 (Requisition and Invoice/Shipping Document), or a contract. The TCN paints a picture of where the cargo originated from and/or where it is going — or at least where it was containerized or palletized. Instructions for the TCN are found in DOD Regulation 4500.32-R, Military Standard Transportation And Movement Procedures (MILSTAMP). For the laymen, the TCN can be useful for tracking a shipment or cargo. Often, (not always) the TCN assumes the document number of the item requisitioned through the supply channels with three extra characters such as XXX.

The MRO is important primarily due to the document number. The document number is a unique number used to identify a requisition. The document number consists of 14 alphanumeric positions. This number is comprised of three elements. For MILSTRIP transactions, the following three elements are used:

(1) Requisitioner (DoDAAC).

(2) Julian Date - A four-digit code that represents the date. The first position shows the last numeric position of the calendar year and the last three positions of the numeric consecutive day.

(3) Serial Number - A four-position, alphanumeric code assigned by the PBO or requisitioning STAMIS of record (ULLS or SARSS). The serial numbers are assigned daily at the discretion of the PBO. (DOD 4000.25-1.M, MILSTRIP, Appendix B7, page B7-1).

Ship Shape.

Most of us just order items and expect that it will somehow find your location. If all goes correctly, the item will get to the customer without complication. However, shipments do get delayed and items can be temporarily "frustrated." Experience shows me that "frustrated" cargo (i.e. temporarily halted) is due to cargo not having a MSL, MRO or incorrect DoDAAC on the cargo. In the past this would have resulted in "dead" cargo. In that, the original requisitioner would not have gotten his cargo. If applied, the single most important item on a shipment is a radio frequency identification tag (RF ID Tag). Greater than 90 percent of cargo shipped from the United States enroute to Iraq has a RF Tag. The RF ID Tag, if properly documented (burned) has content level data. Content level data lists document numbers, DoDAAC of the consignee (original requester of cargo), transportation control number, and national stock number of the items ordered. The true value of the RF ID tag is that it provides passive in-transit visibility capability. Anyone who has established an in-transit visibility (ITV) account can see where their request if the cargo is shipped with an RF ID tag and the tag is created "burned" correctly. The RF ID tag is passive because, visibility is attained when a RF ID Tag passes by an electronic reader known as

Illustration 2

Illustration 3

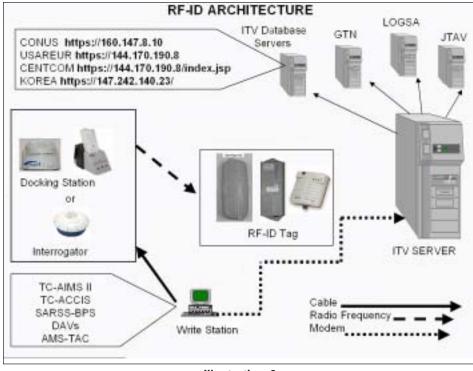interrogator that sends and receives radio wave signals to/from the RF ID tag and interrupts the content level data on the RF ID tag. Once an RF ID tag transits past an interrogator, information from the RF ID tag is read and the interrogator synchronizes this information and passes it via satellite to one of ITV servers worldwide. For those deployed in support of OIF the ITV server resides in Germany. The link to the website to establish an account is and check requisitions that have been shipped is https://144.170.190.8 An easy to follow diagram on how and where ITV servers get there information on cargo is depicted in Illustration 3.

RF ID Architecture

The point behind the explanation of RF ID technology is not to make the unfamiliar into experts but rather inform that there is a very good way to track shipments in transit. However, it is important that RF ID tags are not full-proof. RF ID tags do fall off, batteries wear out, tags and at times are loaded with incomplete or no data. When properly formatted ("burned") correctly, RF ID technology is extremely useful in tracking shipments and cargo in-transit.

Remember, any given day there are millions of requisitions and shipments in transit to operations in Kuwait, Iraq, and Afghanistan. The following checklist represents a synopsis of what has been written about in this article. The first checklist represents the actions your unit should take prior to requisitioning your first item for operations in the CENTCOM AOR. The second checklist represents what you should find out and be able to provide once your shipment becomes "frustrated cargo."

Checklist 1 - Checklist prior to requisitioning items for use in CENTCOM AOR.

ITEM ACTION

1. What is your deployment DoDAAC? (It will most likely not be your garrison DoDAAC.)

   a. Don't have one? Request document number of the requisition. See your battalion S4.

   b. Have a deployment DoDAAC? Consult https://day2k1.daas.dla.mil /aasinq/dodaac.asp

       (1) What is the TAC 1 address?
       (2) What is the TAC 2 address?

2. If possible, check to see who your local supply support activity or forward distribution point will be and their DoDAAC. All items will come into the warehouse prior to delivery to you as the customer.

3. Check with DISCOM or COSCOM DoDAAF Manager — are you on the route plan for delivery?

4. If you can influence the packaging of cargo, insist on a standard military shipping label and RF ID tag, and record the RF ID tag number.

5. Sign up for USAREUR ITV access https://144.170.190.8

Checklist 2 - For searching for "frustrated" cargo once in CENTCOM AOR.

1. Check your servicing SSA to see if they have receipted the item.

2. Check your shipment (s) for these numbers:

☐ Document number of the requisition,

☐ Radio Frequency Identification Tag (RF Tags),

☐ Pallet ID Number,

☐ Document Number – 14 Digits,

☐ Transportation Control Number (TCN) - 17 Digits,

☐ Consignee (Ship to DODAAC) for Iraq usually starts with W91 (Army) and has 3 more digits, and the

☐ Container Number.

2. Check what type pack is your shipment(s):

   a. 20-40 Container
   b. 463L (Air Force) Pallet
   c. Wooden (Skid) Pallet
   d. Multi-Pack
   e. Major Assembly Shipping Container
   f. Special Pack (Crate)

3. Is this cargo part of a unit move or is replenishment stock?

4. Who shipped the cargo? Include Contact Information.

5. Who built the pack? Include Contact Information.

6. Who is supposed to receive the pack (Shipment)? Include contact information.

7. Where did the cargo (shipment) originate from?

8. What was the destination of the cargo (shipment)?

Major Brian M. McMurry currently serves as the support operations officer and Corps Distribution Center OIC for the 319th Corps Support Battalion, 13th Corps Support Command, which deployed as part of Operation Iraqi Freedom from January 2004 to January 2005.

JOINT FIRES AND EFFECTS FOR YOUR INFANTRY AND HEAVY BCTS

MAJOR GENERAL DAVID P. VALCOURT

Joint fires and effects is what we *do* — your Field Artillery is the Army's integrators of joint fires and effects. As we transition to the Modular Force on to the Future Force, we have three priorities to best support the Army's ability to integrate joint fires and effects.

Our top priority is to enable the Army to grow the Fires Battalions organic to the fourth brigade combat teams (BCTs), in most cases, in the units of employment (UExs). We are capitalizing on the energy and resources of the Global War on Terrorism to grow these battalions from 33 to 43 in the BCTs — potentially to 48 BCTs. Growing Fires Battalions, which are more capable versions of today's direct support (DS) FA battalions, will help relieve the pressure on the Army due to our GWOT operational tempo (OPTEMPO).

My second priority is to provide Fires and Effects Cells (FECs) that replace fire support elements (FSEs) in our maneuver force at every level from the company to the UEy as the backbone of the ground force's ability to employ joint fires and effects. The FECs are joint-capable, lethal and nonlethal effects coordinating centers.

Third we will build Fires Brigades for the echelon above the BCTs …the UExs and possibly UEy. The Fires Brigade combines the functions of today's corps artillery, FA brigade and division artillery. Ideally, we will have a Fires Brigade for every UEx.

The BCT's Fires Battalions

Each maneuver brigade commander now has an organic Fires Battalion with 16 guns. His FA battalion has two eight-gun batteries that each has two firing platoons. Figure 1 shows an Infantry BCT Fires Battalion. A Heavy BCT Fires Battalion is essentially the same, exchanging the 105-mm cannons for 155-mm cannons and adding a Q-37 Firefinder radar.
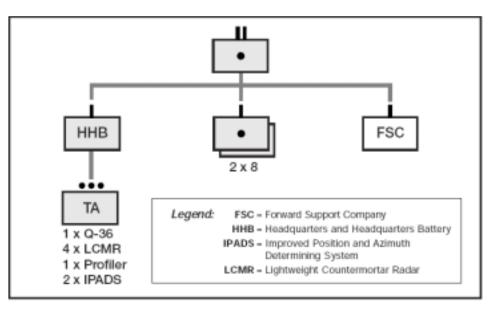

Figure 1 - Fires Battalion for the Infantry Brigade Combat Team

The purpose of the Fires Battalion is to provide you immediately responsive, all-weather, all-terrain close supporting precision and suppressive fires.

Massing that 16-gun Fires Battalion remains a mission-essential task list (METL) capability. But fighting in Operation Iraqi Freedom and Operation Enduring Freedom has taught us you need platoon-sized elements with four guns to track your patrols and lay on your highest priority targets. You will have four organic platoons to support your patrols in your Fires Battalion and more if you have a reinforcing cannon battalion from the Fires Brigade employed with your UEx. That reinforcing battalion effectively will double your FA fires capabilities.

The Fires Battalion's weapons must be the best possible to support your operations. Next summer, we are reopening the production line for the M119 105-mm towed howitzer to equip the new additional Fires Battalions in the Infantry BCTs. Although the M119 howitzer is not the ideal system, it is the best currently available.

Recognizing that Infantry BCTs will require a light, close support cannon system, we are developing the M119's replacement, an enhanced lightweight cannon, called the enhanced forcible entry cannon. This digitized 105-mm cannon will be transportable by both the UH60 Black Hawk helicopter and the high-mobility multipurpose wheeled vehicle (HMMWV). Our requirements include a greater range and better 6400-mil traverse capability and the ability to fire existing and future improved 105 ammunition. The forced-entry cannon is in concept development now, and we are pushing to bring it into the force as rapidly as possible.

Our Stryker BCTs need a self propelled, survivable howitzer to replace its towed M198. As an interim step, the first SBCT will receive the M777A1, which is a more deployable lightweight 155-mm howitzer with Paladin-like accuracy and responsiveness, in August of 2006. The LW 155 will be the first cannon capable of firing our new Excalibur precision munitions.

Ultimately, the SBCT and Heavy BCT

will fight with the same cannon called the non-line-of-sight cannon, the NLOS Cannon, a future combat system (FCS) variant. We are projected to start fielding the NLOS Cannon in 2008. For more information on the NLOS Cannon, see the article "NLOS Systems for the Modular and Future Forces" in the November-December 2004 edition of *Field Artillery* online at sill-www.army.mil/famag.

The Fires Battalion commander remains dual-hatted: commander of your 16-gun FA battalion and resident expert on coordinating the BCT's joint fires and effects. Your fire support team members (FISTers) organic to the companies are part of his fires and effects chain. As you know, these FISTers are in your formations to provide lethal fires and nonlethal effects where "the rubber meets the road," the close fight.

As Chief of Field Artillery, I have had several discussions with your Chief of Infantry about where to best locate these FISTs to make them most effective — including at the task force or BCT level. There is no perfect solution, however, I would tell you that where they are located is not the issue. *Ownership* is not the issue — the Fires Battalion and all fire support assets are organic to the BCT, and FISTs exist in order to provide each company accurate, timely, and lethal fires. The issue is ensuring these very capable FISTers remain trained and certified to standard while at the same time earn the trust and confidence of their maneuver company commanders they are there to support. To do this, their training must balance both their maneuver skills with their digital fires and effects skills. Experience has shown that maneuver skills are best trained in the maneuver company, but the digital fires skills must be trained and sustained in the BCT fires environment led by the senior fire support officer and NCO.

Whether the FISTs are aggregated at the BCT level, assigned out to the companies or aggregated at the Fires Battalion's headquarters and headquarters battery (HHB), the key will be to strike a balance for training and certification.

FISTers are first and foremost combat arms Soldiers. As such, they should be trained and capable of leading combat arms platoons. But we should remember that their primary mission is to ensure you receive the fires and effects you need to succeed in combat or stability and support operations (SOSO). These functionally trained lieutenants and NCOs are in the maneuver company formation to coordinate your close supporting fires.

One additional thought along those lines…the Fires Battalion is the BCT's best resource to train, certify, and command and control the indirect fire systems of the BCT. I recommend the BCT consider assigning the task force's 120-mm mortars to the Fires Battalion for gunnery training and certification, then back into their TFs for combined arms training and execution. Many

Private First Class R. Alan Mitchell

Two Soldiers from the 2nd Armored Cavalry Regiment prepare to launch a mortar round during live-fire training at Glamoc, Bosnia and Herzegovina.

of you already do this, and from reports I have received, this seems to work well.

Traditionally the 120's have been the maneuver TF commander's only organic fires asset and the one system he always controlled and could depend upon. Again, this is not about ownership but about training — all are organic to the BCT. The Fires Battalion is the BCT commander's best place to train and certify the individual and collective indirect fire tasks demanded of these tremendously capable combined arms Soldiers.

We are working to ensure the 13F Fire Support Specialists in your company FISTs are trained and qualified to access joint close air support (JCAS). With modularity, the Army has stated it has a requirement for enlisted terminal attack controllers (ETACs) of JCAS assets down to the *company level* vice the previous requirement for ETACs at the task force level. Training, certifying and sustaining the qualifications of the increased number of TACs will take time, and we believe it will require the Army to certify Soldiers to bring CAS effects to the company level.

The Army plans to invest this training most heavily in those who make their living coordinating fires and effects, our 13F30s and 13F40s. The 3rd Infantry Division recently sent about two dozen 13Fs for training at the Air-Ground Operations School at Nellis AFB, Nevada, as proof of the concept. The training qualified them to provide guidance for JCAS when visual acquisition of the aircraft and target is not possible or not necessary because of a low risk of fratricide (types 2 and 3 CAS). We will continue this training for 13Fs.

At the end of the day, I believe we also will train and equip Soldiers to serve as ETACs with eyes-on the CAS aircraft and

target, controlling the attack (type 1 CAS). This will require more extensive training to meet joint fires standards.

In a related issue, we may have caused some confusion with the term "Universal Observer." The more appropriate term is "Joint Fires Observer." We are correcting that term and its definition in joint doctrine channels. A Joint Fires Observer is any serviceman, usually E5 or above, who is trained and certified to plan and execute the application of effects from Marine, Army and Navy indirect fires systems as well as coordinate Air Force types 2 and 3 CAS.

As your BCT fights, your Fires Battalion must be able to support you in the most difficult terrain, including urban areas, minimizing collateral damage while delivering precision effects against high-payoff point targets. We are developing precision-guided munitions to do just that.

Precision-guided munitions organic to your BCT will provide maximum responsiveness. We are developing precision-guided munitions for 155-mm and 105-mm cannons and for the two "six-pack" multiple-launch rocket system (MLRS) and one "six-pack" high-mobility artillery rocket system (HIMARS), a wheeled version of MLRS.

In September, the Excalibur Unitary Round (155-mm) Operational Requirements Document (ORD) was approved by the Joint Requirements Oversight Committee (JROC) with the signature of the Vice Chairman of the Joint Staff. Excalibur unitary increases the Fires Battalion's precision in the close fight with longer range and a steep, non-ballistic terminal trajectory that allows the BCT to attack targets in urban and complex terrain while minimizing collateral damage. The round has been very successful in recent testing and is projected to be fielded with the LW 155 in FY07.

The projectile guidance kit (PGK), also known as the course-correcting fuze, will bring precision to 105 as well as 155 cannon munitions. It is a fuze/fins device applied to existing dumb munitions to significantly increase accuracy to an objective requirement of 30 meters. This will reduce the amount of ammunition required for missions and enhance the Modular and Future Forces' precision.

For the Fires Brigade, we are developing

Lightweight Countermortar Radar

the guided-MLRS unitary rocket (GMLRS-U). It will give the UEx longer range precision fires for shaping and counterstrike operations with the added benefit of the unitary round's being effective in areas of collateral concern. The internal bomblets in the GMLRS-U are replaced by a single unitary charge. Its precision and more predictable lethality area reduces the minimum safe distance (MSD) to friendly forces and enables attack in areas of collateral concern. I am extremely pleased with GMLRS-U's performance in recent operational testing—it is a potent munition for our GWOT forces operating in urban and complex terrain.

Congress has approved the funding for GMLRS-U. I am pushing for its limited fielding for ongoing war operations in FY06. Force-wide fielding is projected for FY08.

To help your BCT achieve precision-guided fires and provide more precise area effects, we have "raised the bar" on target location error (TLE), setting the standard at no more than 20 meters at ten kilometers.

The mounted observer in our Heavy BCT will meet the TLE standard via his fire support sensor system (FS[3]) mounted on the combat observation lasing team (COLT) Knight vehicle in early 2005. The FS[3] is a long-range advanced scout surveillance system (LRAS[3]) with a laser designator module (LDM). We will deploy 20 FS[3]-equipped Knights to Iraq in January. We are working to provide our Bradley FIST vehicles (BFISTs) with the same capability.

Our dismounted observers in the Infantry BCT will meet this standard. The binocular-like Mark VIIs and Viper/Vector 21s have significantly improved the TLE for our dismounted observers in the Infantry BCTs. These systems provide lightweight night vision and digital connectivity. We have fielded them in Afghanistan and Iraq.

About fires at the UEx level…a few words. The Fires Brigade will come to the fight with a mix of both MLRS and cannon battalions. In most situations, I would coach the UEx commander to push the Fires Brigade cannon battalions down to the BCTs to thicken and reinforce the fight where he has the most concern. The remaining MLRS/HIMARS can be positioned to support the UEx commander's intent, setting the conditions for the BCTs' fight and delivering counterstrike fires.

The Fires Brigades will have improved target acquisition capabilities, including access to tactical and attack unmanned area vehicles (UAVs) and other sensors. This will allow counterstrike to be proactive, attacking enemy fires assets before he can employ them, as well as allow for the more traditional reactive counterstrike using Firefinder radars.

The BCT/UEx will have three-tiered radar coverage with overlapping footprints for maximum force protection. The three are the Q-37 and Q-36 radars plus the lightweight countermortar radar (LCMR), the latter in the maneuver battalion providing 360-degree coverage. The LCMR began life as a commercial, off-the-shelf Special Operations Forces (SOF) radar. It will complement the Firefinder radars that have considerably more range. We are working with the Program Manager of LCMR to improve the LCMR's accuracy to 10 meters at 10 kilometers and reduce the processing time to achieve a lethality in total radar coverage that will allow the enemy *one chance* to fire before we destroy him and his systems.

Just like the Fires Battalion commander is the BCT commander's expert on fires and effects and his indirect fires trainer, the Fires Brigade commander will serve the UEx commander as his fires and effects
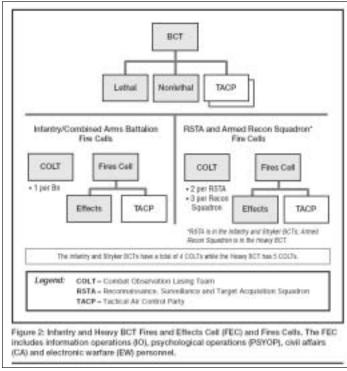
Figure 2

Figure 2: Infantry and Heavy BCT Fires and Effects Cell (FEC) and Fires Cells. The FEC includes information operations (IO), psychological operations (PSYOP), civil affairs (CA) and electronic warfare (EW) personnel.

advisor/trainer. The Fires Brigade commander will assist BCT commanders by maintaining an informal relationship with the Fires Battalion commanders, coaching, mentoring and training them and ensuring their battalions are certified.

Fires and Effects Cells

In addition to lethal fires with precision or to suppress, sometimes you will need tactical nonlethal effects. Your BCT, UEx and UEy FECs are "FSEs" redesigned to coordinate that full-spectrum joint capability. Fires Cells serve as the "FECs" in the Infantry/Combined Arms battalions headquarters. (See Figure 2.)

As you can see in the figure, the FEC has significantly broader capabilities, including access joint fires. The BCT FEC links directly with its UEx, the Fires Brigade and the UEy FECs and with joint assets via the advanced field artillery tactical data system (AFATDS). The FEC is the one organization at each maneuver headquarters that pulls together all lethal and nonlethal effects to support the maneuver commander's plan.

The Fires Cells in the maneuver company and battalion headquarters will be led by your Fires Officers while at the BCT level and above, Effects Coordinators (ECOORDs) will lead the FECs.

The function of the ECOORD is not to be confused with that of today's "fire support coordinator" (FSCOORD), who is an FA commander in the DS battalion or division artillery. The Fires Battalion/Fires Brigade commanders will command their FA formations and advise the BCT/UEx commanders on fires and effects. The ECOORD, who is the FA staff officer at the maneuver headquarters, will plan the details of and coordinate fires and effects, lethal and nonlethal, at the direction of his maneuver commander. He will serve, more or less, as a G3-Fires. The BCT ECOORD is designated as a lieutenant colonel position; however, for sometime in the future, you will see majors as BCT ECOORDs.

Fort Sill initiated the Joint Fires and Effects Course (JFEC) in September to develop fires and effect officers and NCOs. The three-week course has joint instructors teaching the full range of joint fires and effects to students from all services. Also in the Second Quarter of FY05, we will begin teaching the Tactical Information Operations (IO) Course for IO at the BCT and below. It will complement the IO course for UEx and above taught at Fort Leavenworth.

CounterStrike Task Force (CSTF)

As many of you are aware, the Army established the Improvised Explosive Device (IED) Task Force to counter the asymmetrical effects of IEDs in Afghanistan and Iraq. In a similar vein, the Army has established the CSTF to counter the effects of enemy indirect fires in OIF and OEF, primarily mortar and rocket fires, which are causing the greatest number of casualties among our Coalition Forces. These indirect fires are characterized by low-volume, shoot-and-scoot delivery.

The Training and Doctrine Command (TRADOC) Futures has focused the efforts of the schoolhouses, particularly the FA and Air Defense Schools, to work with in-theater leaders and the Department of the Army staff to find holistic solutions to defeat the enemy and protect our Soldiers. Our strategy must be layered and redundant.

Today's Army is an Army of veterans, including you, and I need your help. We are looking for ways to provide early warning of incoming rounds for individual Soldiers, improvise overhead protection at base camps, intercept rounds and improve radar acquisitions of indirect fire and response times, among other things.

We need your innovative ideas and those of others in the Army and our joint force to defeat the indirect fire threat in OIF/OEF. Please share your expertise on our secure website: https://counterstrike.army.smil.mil. You can go to our nonsecure website for more information: http://sill-www.army.mil//counterstrike.

If you would like more information about anything I have discussed in this article (and more), please visit our Fires Knowledge Network (FKN) on Army Knowledge Online (AKO) under "Knowledge Networks." If you want to comment on this article, e-mail me at Redleg@sill.army.mil. Whether I respond or not, be assured I read those e-mails and you will have had input.

The bottom line for today's transitioning Modular Force and the Future Force: joint fires and effects is what we do. And we do it for you — immediately responsive close supporting and suppressive fires and effects in all weather, all terrain. It's my job to support you and the entire combat arms team. *Create the Thunder!*

Major General David P. Valcourt has been the Chief of Field Artillery, Commandant of the Field Artillery School and Commanding General of Fort Sill, Oklahoma, since December 2003. In his previous assignment, he was the Director of Strategy, Plans and Policy in the Office of the G3 at the Pentagon. He also served as the Assistant Division Commander (Maneuver) for the 2d Infantry Division in Korea and commanded the 4th Infantry Division (Mechanized) Artillery, Fort Hood, Texas, helping to transform the 4th Division into the Army's first digitized division. He was the G3 of III Corps Artillery and the 212th Field Artillery Brigade, both at Fort Sill. General Valcourt commanded 2d Battalion, 17th Field Artillery, the first unit equipped with the Paladin M109A6 155-mm self-propelled howitzer, determining the initial tactics, techniques and procedures for the new semi-autonomous howitzer in support of maneuver forces. He holds two master's degrees, including an MA in National Security and Strategic Studies from the Naval War College, Newport, Rhode Island.

FORCE XXI OPERATIONS AND ITS IMPLICATIONS FOR JUNIOR ARMY LEADERS

FIRST LIEUTENANT MARCO J. LYONS

The United States Army is committed to a comprehensive program of change that it calls Transformation. The challenges associated with force downsizing since the 1991 Gulf War, a new age of joint and combined operations, and multiple ongoing deployments around the globe and across the full spectrum of conflict, have accelerated an era of intense reform. Transformation refers to the sweeping changes in organizations, weapons, equipment, vehicles, and manning systems, meant to move the Army from an industrial age, mass-based force to an information age, capabilities-based, power projection force. Despite the fact that the future course of Transformation continues to be debated, the Army is already beyond the threshold of integrating new technologies, weapon systems, tactical and operational organizations, and developing a new but still emerging joint doctrine, according to the Army's latest capstone doctrinal manual, FM 3-0, *Operations*. New geopolitical threats including non-nation forces, an ever changing contemporary operating environment that includes asymmetric, terrorist tactics, new battlespace technologies, and new means of sustaining Army forces all guarantee that change will be a fixture in the lives of Soldiers for some time.

Army redesign is nothing new. The so-called Pentomic divisions of the early nuclear period, the ROAD (Reorganization Objective, Army Divisions) initiatives of the early 1960s, the Army of Excellence of the 1980s, and numerous other reform programs have been a regular occurrence in the Army since 1945. According to U.S. Army Training and Doctrine Command historians, Army Transformation is different in two significant ways. First, computer based, constructive and virtual simulation methods and equipment were joined to live field simulation to test and analyze new organizational structures. Second, a linked, instantaneous, and common picture and awareness was developed for the units taking part in the live simulation — this new emerging capability was given the name "digitization." Transformation is different in another way. Where the Army has "reinvented" itself before it has tended to follow the lead of society; now it appears to be pushing society into the information age. The most significant difference of all is that Transformation is being undertaken at the same time that the Army is deployed in two difficult, and at times frustrating, campaigns against insurgencies in Afghanistan and Iraq. The world's premier land fighting force is transforming itself while at war. The Army has not undertaken anything like the current process of redesigning itself since the Second World War.

There is no shortage of professional attention being given to Transformation and related issues as indicated by the number of journal articles, monographs, and professional studies and reports, beginning in the mid-1990s and picking up significantly after 1998. Every major Army publication including *Military Review* and *Parameters* has printed articles, and in some cases dedicated entire issues, to Force XXI Operations and beginning after 1999, Army Transformation. The Army has also produced numerous white papers, official "roadmaps," and other monographs and articles explaining its transformation from Cold War ground force to 21st century joint force land component, knowledge-based warfighting organization. Although numerous official Army and professional publications mention that people, not weapons or technology, are at the center of the future force, the fact remains that there is no comprehensive portrayal of leadership in the future operating environment. This can only lead one to assume that the Army believes its current leadership doctrine is sufficient. Very little direct attention has been given to leadership under Force XXI Operations, despite the fact that Army Transformation has not been ignored by observers and professionals both inside and outside the Army.

The literature explaining Army Transformation mentions a new form of leadership development, but lacks details. In particular, and perhaps most telling, FM 3-0, which has been called the "Transformation field manual," gives very little attention to leadership at all and advances nothing new on the subject over earlier Cold War era doctrine. The Army's own White Paper on the Objective Force — the name used earlier for the Transformation Army of the future, now referred to as the Future Force — manages nothing more substantial than a vague and passing reference to future leaders being empowered by situational dominance "in a vibrant information network." In a detailed study of the ways in which the institutional Army must change in light of the rise of information age warfare, DA Pamphlet 100-1, under the chapter "Army XXI Implications," includes such simplistic statements as "Leader development processes will focus on bridging the gap between industrial and information age capabilities and needs," and "There will be a need for greater versatility, initiative, risk taking and exploitation of opportunity." More recently, in an

Association of the United States Army report — entitled "How 'Transformational' is Army Transformation?" — leadership development is mentioned as critical to successful Transformation and yet no details are provided. Those publications that do discuss the leadership model required for the 21st century Army do not attempt a complete treatment of the subject matter and do not attempt to replace existing Army leadership doctrine.

The earliest conceptual foundation for Army Transformation can be found in a small publication that appeared in 1994. Published by the U.S. Army's Training and Doctrine Command, Pamphlet 525-5, Force XXI Operations, presented a revolutionary vision of future warfare in a dramatically altered, multipolar geo-strategic environment. The concept of Force XXI Operations was subsumed by the Army Transformation campaign by the end of the 1990s and the term dropped out of professional usage thereafter. The Army, according to the authors of TRADOC Pamphlet 525-5, in a remark that would become the heart of Transformation five years later, "must design organizations and develop capabilities that will allow it to be rapidly tailorable, rapidly expansible, strategically deployable, and effectively employable as part of a joint and multinational team to achieve decisive results in future War and [operations other than war] in all operational environments." Transformation officially began with a speech given by Army Chief of Staff General Shinseki in late 1999, where he first declared the need for the Army to transform itself into a more "responsive, deployable, agile, versatile, lethal, survivable, and sustainable" force. TRADOC Pamphlet 525-5 represents the original, comprehensive statement on what later became known as Army Transformation — the Army's attempt to understand and adjust to the advent of information age warfare.

Force XXI Operations, if fully implemented as envisioned in TRADOC Pamphlet 525-5, makes significant and revolutionary demands on leaders at all levels, including the junior level. "The Army will develop young tactical leaders that are schooled in operational art, science, and doctrine, and are masters at troop leading in dynamic operational environments." For such a Force XXI inspired and Transformation focused statement to become reality, the Army must recognize that Force XXI leadership represents a significant break with past doctrine, the 1980s doctrine of AirLand Battle. The Army must face the revolutionary implications of Force XXI Operations and information age warfare, and begin fleshing out a new leadership doctrine immediately. This is an examination of Force XXI Operations as presented and defined in TRADOC Pamphlet 525-5, as opposed to the current

force or current doctrine as outlined in the new joint force series of field manuals. This paper will compare the leadership models of AirLand Battle and Force XXI Operations, and isolate the most significant implications for today's junior Army leaders. Force XXI Operations includes radical implications for junior Army leaders — noncommissioned and commissioned officers operating at the battalion task force level and below.

TRADOC Pamphlet 525-5 describes the conceptual foundations for Army operations across the entire spectrum of conflict from major theater war to operations other than war, involving Force XXI — the Army that doctrine writers in the early 1990s envisioned for the early part of the 21st century. TRADOC Pamphlet 525-5 was a foundation document, including an expansive vision of future warfare and sweeping pronouncements as to the nature of future Army organizations and operations; it was both a revolutionary assessment of the near-term future and a declarative statement of the direction of Army developments into the 21st century. An indication of its foundation quality is the fact that it appears in both arguments and bibliographies all the way up to the present, despite the fact that the Transformation debate has gone through a number of different distinct phases, and is very different today than it was in 1994. Considering its speculative nature and the monumental future developments it attempted to chart, TRADOC Pamphlet 525-5 was surprisingly successful in mapping out the future course of Army developments in both operations and materiel. It recognized the nature of future operations as complex, rapidly changing, possibly protracted and asymmetric, requiring radically new skills sets, and a wider array of experiences and capabilities at the lowest tactical levels. It also presaged the introduction of a medium-weight, highly deployable infantry fighting vehicle (the Stryker) and the successful development and fielding of the Force XXI Battle Command Brigade and Below system. FBCB2 is the tactical hardware and software that allows friendly units in the battlespace to see and communicate with each other automatically, identify and communicate quickly enemy positions, status reports, and other key communications.

Before Force XXI Operations there was AirLand Battle. The initial concept of AirLand Battle first appeared in 1980. It was published officially in the 1982 edition of FM 100-5, *Operations*, and revised again in the 1986 edition — this last form was the doctrine in effect through the end of the 1991 Gulf War. AirLand Battle was a doctrine developed for a specific purpose and was grounded in a sober assessment of weapons capabilities and force ratios. It was developed by the U.S. Army to defeat a numerically superior Soviet enemy on an armor-dominated battlefield in Central Europe relying on technological parity — with the procurement of new weapon systems, most notably the M1 Abrams tank, M2 Bradley infantry fighting vehicle, and AH64 Apache attack helicopter — and superior doctrine — superior for devolving power to the lowest possible level and developing leaders who aggressively seize the initiative and are able to operate independently within the higher commander's intent. AirLand Battle attempted to control the tempo of operations using a detailed battlefield framework based on the echeloned style of attack favored by the Soviets. AirLand Battle relied on a prescriptive, fixed

framework to focus combat power. Even the very name AirLand Battle, which was chosen to highlight the close cooperation between ground armor and attack aviation that was developed to defeat a Soviet-based enemy, suggested a "single-prescription" doctrine.

The 1993 edition of FM 100-5, outlined the Army's post-Cold War doctrine, and included significant changes over its predecessor. Most importantly, it presented a body of principles which could be effectively applied in various situations, both combat and noncombat. AirLand Battle, with its emphasis on ground and air attack forces, gave way to full-dimensional operations based on a much wider concept of joint and combined operations. As a capabilities- and principles-based doctrine, full-dimensional operations outlined how to think about operations with a variety of possible battlespace frameworks, including simultaneous operations as opposed to the set, sequential operations of AirLand Battle. Despite its advancements over the narrow focus of AirLand Battle, full-dimensional operations was found inadequate soon after publication. It was judged to not be offensive enough and too beholden to operations other than war. Commanders complained that it did not permit them enough initiative and fettered them too much with noncombat responsibilities and considerations, such as peace enforcement and refugee management.

Force XXI Operations grew out of the end of the Cold War and the search for a doctrine to replace AirLand Battle. The Army initially planned to update AirLand Battle for the 1990s (tentatively called AirLand Battle 2000) but with the end of the Cold War, and a final revision of that doctrine, though not under the AirLand Battle name (the so-called Full Dimension Operations of FM 100-5/1993), the next year the decision was made to launch a campaign to take the Army into the early years of the next decade. Called Force XXI, continuing changes through the 1990s led to Force XXI becoming subsumed by Army Chief of Staff Shinseki's Transformation campaign beginning in late 1999. Force XXI Operations replaced AirLand Battle which was abandoned primarily because the end of the Cold War suggested that it was no longer entirely applicable, under the assumption that the world and nature of warfare would be dramatically altered by a transition to a non-bipolar world order.

Junior Army leaders are facing situations never seen before in the history of the service. There is nothing new about refugees, insurgents, and humanitarian crises intermingled with conventional (including counterinsurgency) combat operations, but what is new are the demands placed on junior leaders to act appropriately and successfully in those situations — often with very little time to react or guidance from higher headquarters. Iraq is turning out examples of this on a daily basis, in Baghdad, Fallujah, and Samarra, for example, where tactical assessments and actions made at the battalion level and below, almost always multinational and interagency, have operational and at times strategic implications. Junior leaders are regularly required to analyze and synthesize more since the actions of a platoon leader or company commander in theater can have almost immediate and unforeseen operational or even strategic consequences. The complex situations facing leaders today involve both combat and

noncombat factors. Asymmetric threats are appearing more and more even at the junior leader level, such as the prevalence of improvised explosive devices being used in Iraq today. Embedded friendly media, the presence of an indifferent or even hostile international media, and civilians in the battlespace, which can significantly influence tactical operations and the decisions made at the junior leader level, as well as paramilitary and terrorist forces all compound the challenges facing current force leaders. Today junior Army leaders are faced with situations that have operational and sometimes strategic implications, and they are expected to read these situations quickly, understand all the relevant military and political nuances, and act appropriately, at times in the absence of unambiguous orders. They face far more uncertainty and rapidly changing, complex tactical situations than previous generations, and the significance of their actions has risen dramatically.

Current Army leadership doctrine, based on FM 22-100, *Military Leadership*, is a holdover from AirLand Battle. Although the leadership model for AirLand Battle was well refined and developed by 1986, it was essentially the same model in use at the end of World War II. FM 22-100 outlines a detailed and fully developed leadership model that identifies desirable skills, knowledge, attributes, and behaviors (the so-called SKAB model) which is held up as a universal framework from the private to the general. Leaders of the past faced a clearer more straightforward mission and explicit expectations and this is reflected both in the SKAB model and in the unusually explicit task based training and operations model developed hand in hand with AirLand Battle. That model is now out of step with what is suggested by Force XXI Operations. Christopher R. Paparone, in his article "Deconstructing Army Leadership," argues that the Army's traditional leadership model disregards newer emerging concepts of networked organizations and distributed operations. In other words, the inter-netted organizations and distributed operations of Force XXI Operations are not well suited to the hierarchical and rigid leadership model of the AirLand Battle focused Army. It is becoming clearer that the old Army

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leadership model outlined on FM 22-100 is outdated and not able to encompass the entire spectrum of tactical experiences, as well as all that is expected of junior leaders under Force XXI Operations.

The backdrop of Army Transformation is the information revolution. TRADOC Pamphlet 525-5 argues that the emerging information revolution will drive the emergence of information age warfare. The implication is that the information revolution will transform the nature of warfare and signal major changes in military art.

Where AirLand Battle was threat-based and the doctrine of the early 1990s, full-dimensional operations, was capabilities-based, Force XXI Operations introduced the concept of knowledge-based operations. Although the term knowledge-based operations sounds expansive, it really refers simply to the idea that combat power is best concentrated and controlled through the transmission and management of information. Information is revolutionizing situational awareness in battlespace — indeed it will lead to situational dominance — making leaders far more self-aware than ever before. Adding to that the capability to operate effectively dispersed and in distributed operations means that digital leaders will be bolder and less risk-adverse than their analog counterparts. Operations can be executed in a less centralized manner and will not be influenced as much by inclement weather and limited visibility. Actions that used to be done sequentially can now be done simultaneously, such as moving to assembly areas, rehearsals, and resupply operations. Brigade combat teams during field training exercises are already

capable of resupplying while simultaneously occupying assembly areas, and transitioning between missions quickly, over difficult terrain, at night. These developments are also being seen to a lesser extent with units currently operating in Afghanistan and Iraq. Networked forces will have the revolutionary capabilities to adjust rapidly to changing tactical situations and synchronize their efforts "in-stride"— on the move and in the midst of ongoing operations — with minimal direction or intervention.

Information age warfare, as a result of more information being pushed to lower levels (Transformation envisions interconnectivity reaching down to the individual Soldier), will devolve power to the lowest leaders, making more important decisions, quicker, with greater tactical and even strategic consequences. The Army's junior leaders will need to understand and thrive on sometimes rapidly changing situations and evolving missions. In the U.S. Army Command and General Staff College paper "Envisioning Future Warfare," Gordon R.Sullivan and James M. Dubik said, "Information age warfare fought under extremely ambiguous threat, geographic and political conditions will require an unprecedented degree of discipline, quick thinking, cohesion and technical competence…." They also wrote that in the information age, "Leaders will guide by vision and policy, not by procedure-based rules." The implied movement from procedural leadership to visionary leadership illustrates the replacement of the AirLand Battle leader by the Force XXI leader. Net-centric warfare, which is a hoped for but as yet unrealized development of the revolution in military affairs, will be leadership intensive, and yet writings on net-centric warfare do not spell out a new leadership model.

Digitization is a hallmark of Transformation. At the heart of digitization is the emergence of integrated battlespace C3I (command, control, communications, and information) systems, which is a reality today with the successful fielding of FBCB2. Christopher J. Toomey, in his "Army Digitization: Making it Ready for Prime Time," gives an excellent explanation of the new phenomenon of

revolution in military affairs, and the single most important capability that allows the realization of Force XXI Operations.

An RMA is transforming the nature of warfare and implementation of Force XXI Operations will allow future commanders to practice a vastly improved form of battle command and thus dominate future battlespaces. According to Earl H. Tilford, Jr., in his article "The Revolution in Military Affairs: Prospect and Cautions," revolution in Military Affairs can be defined as a significant change "…in the nature of warfare brought about by the innovative application of technologies which, combined with dramatic changes in military doctrine, and operational concepts, fundamentally alters the character and conduct of operations." The RMA is connected to Army Transformation in two significant ways. First, the RMA will permit the highly digitized battle command systems necessary to execute the highly dispersed and high tempo form of warfare at extended ranges envisioned by Transformation. Second, the RMA is transforming the nature of the battlespace — geographically vast, including both physical and cyber space — and if future force leaders are to be able to exploit the new nature of battlespace, they will need to be educated and trained in a warfare that is successful in this changed environment.

The leader outlined in doctrinal manuals today is radically different than the one outlined under AirLand Battle. AirLand Battle was designed for a particular threat and environment. The forces developed by the late 1980s, and victorious in the 1991 Gulf War, were tailored to that doctrine, and leaders were developed for that doctrine and those forces. The AirLand Battle leader is a product of AirLand Battle doctrine and the threat environment that it was designed to confront. Still, the Army's leadership doctrine has not transformed. Even though the leadership model under Force XXI Operations is unclear and underdeveloped, there are clear implications. TRADOC Pamphlet 525-5 includes references to the future Force XXI leader, such as the reference to "a new generation of leaders adept in the art of command." The Force XXI leader can be distinguished from the AirLand Battle leader by the following characteristics: procedural leadership is replaced by creative leadership, formulaic tactics by sophisticated tactics, firepower based operations by information based operations, and tightly nested planning and orders by changing and more fluid planning and orders. Just as Force XXI Operations was a dramatic break with AirLand Battle, so too the Force XXI leader is radically different than the AirLand Battle leader. The technically and tactically proficient manager of detailed processes, adhering to essentially formulaic tactical principles and prescriptions gives way to a far more mentally agile, reflective, and transformational leader.

AirLand Battle called for synchronization as well as aggressive initiative at all levels of Army leadership. Still, the initiative envisioned was firmly within a fully articulated plan of battle, grounded in the "physics" of march rates, maximum effective ranges of weapons, and so forth. The initiative outlined was not

The FBCB2 Commander's Digital Assistant is a portable device that can be used all over the battlefield to track Soldiers, map the battlefield, and send messages.

digitization of the battlespace. Digitization enhances opportunities for applying mass, according to an early study of the transition from analog to digital operations at the brigade level and below. Because of the reality of full battlespace digitization, battlefield visualization — something that junior leaders only did informally before, when possible — is now a realistic and fully developed possibility for junior leaders. The authors of the study (Marcus G. Dudley, John C. Johnston, William S. Jones and Christopher P. Strauss) conclude "[Situational awareness] is one of the most positive aspects of digitization. Battlefield visualization leads to better [situational understanding] at all echelons. More accurate information, especially on the enemy, boosts leader confidence…. Digital capabilities empower units to maneuver and engage the enemy when and where the commander chooses…. Digital capabilities give the commander and his staff more time to think and analyze. The enhanced capabilities improve planning, decision-making, and synchronization." Digitization also poses unique problems and challenges to junior leaders, which merely accentuate the new demands and expectations under Force XXI Operations. Dudley and his fellow authors also noted that it has already been observed that digitization, if not properly implemented and managed, may lead to micromanagement of subordinates and significantly increase the problems inherent in controlling fires within the battlespace. Digitization of the battlespace is a reality, a significant component of the current

of the sort to emerge later with respect to a blurring of military operations and operations other than war, and asymmetric threats including terrorists and criminals. The form of Army leadership suggested by Force XXI Operations is moving away from a clearly defined, procedure-based model, albeit slowly and with some resistance. The combination of an information rich battlespace and increased speed of operations will put revolutionary demands on leaders. The clarity and predictability of AirLand Battle gave way to a sometimes murky and "complex" full spectrum operations. The mechanical model of AirLand Battle gave way to a new focus on "intuition" and a revived emphasis on initiative at even lower levels — trained and continuously informed Soldiers. An "intuitive feel for combat" is a key concept in the battlefield visualization concept which is the heart of battle command. Highlighted here are the abilities to envision events, make applicable decisions, and act rapidly under contact. And even more specifically, current and emerging technologies will allow leaders to know enough of the operational picture to make the correct decisions quickly and within very short windows of opportunity.

The relative importance of innovation, creativity, and risk taking under AirLand Battle increases dramatically under Force XXI. Accelerated, collaborative planning will become more commonplace. With the regular, ongoing rotations of Operation Enduring Freedom and Operation Iraqi Freedom, junior Army leaders are gaining a breadth of experience not seen since the Vietnam era. The Global War on Terrorism means that junior Army leaders will be far more active, involved in more operations, and thus gaining experience faster.

Future warfare has been characterized as complex, protracted, ambiguous, and asymmetric — the resultant doctrine is necessarily flexible and imprecise. Battle command is a significant change and will reach all the way down to the junior officer level. Battle command "…is the ability to make, communicate, and implement sound decisions, through superior knowledge, faster than the enemy can react, and at a controlled operational tempo." Battle command will continue to be a combination

of art and science — as it always has been — however, in the future the art component will grow in significance. Although battle command is a revolutionary concept of "applying leadership and decision making to achieve mission success," the core definition of leadership in the Transformation architecture remains the same as it has since the Vietnam conflict. Battle command refers more to how leadership is exercised: entirely or almost entirely through digital and computerized systems. Huba Wass de Czege, a regular author on Transformation issues, has argued that warfare against an asymmetric enemy, as can be expected will be more and more the norm into the future, requires more art than science. Junior leaders under Force XXI will be expected to be cognizant of these factors and have a basic understanding of the nature of joint and combined operations at higher echelons. There will also be a certain amount of jointness and combinedness at the junior level, multinational patrols for example, and use of interpreters at the squad and platoon level, but admittedly the changes here will not be as dramatic as in the areas of weapons and other advance warfighting technologies.

Where AirLand Battle was inextricably linked to a place (Central Europe) and threat (Soviet Union), Force XXI has been called a "mind-set." Force XXI leaders will be trained for more rapid decision making and team building. Although military leaders have always been expected to be team builders, the future environment will be dominated by ad hoc and task or mission based teams. In the future the rule will be that relationships will be inter-netted, based on need and expertise as opposed to chain of command. Other changes include a move from plan-centric to intent-centric operations, physical to virtual rehearsals, and from static command and control to command and control on the move.

Self-development, one of three pillars of leader development in the Army, will be transformed and greatly improved due to the extensive access to computerized databases. Future force leaders at the most junior level will need to access the latest reports, lessons learned, TTPs (tactics, techniques, and procedures), training documents, relevant professional articles,

technical updates, and computer-based instruction on a regular basis and productively use their limited time. Force XXI leaders will be fully "plugged-in."

Force XXI leaders must be more flexible in dealing with complex operating environments that include aspects of combat operations, civilian support, humanitarian relief, and peace keeping all in one. More mentally agile to deal with fast paced operations. Adaptive to deal with changing, asymmetric threats, and ambiguous threat environments. More independent thinking and more aggressive in initiative to act quickly to grasp key opportunities while staying within the intent of higher commands and at times, the operational and strategic settings as well. Force XXI Operations signaled a new model of how leaders would think at all levels. Just as the current geopolitical situation does not allow us the luxury of focusing on one set of threat and geographic conditions, it also does not allow us the comfort of using one, detailed, predictable leadership model.

Force XXI Operations will require a new generation of leaders who have been specially trained and prepared for leading in an ambiguous, complex, and changing environment. Junior leadership must be trained in a new model of leadership from the beginning, as opposed to thinking that it will be developed later in their careers. Kenneth A. Romaine, in "Developing Lieutenants in a Transforming Army," argues that because of the complex and ambiguous operating environment we face today, we can no longer assume that junior leaders do not need a lot of the same skills and attributes of more senior leaders. "Whether negotiating, mediating disputes, or interpreting rules of engagement, young leaders face difficult decisions that require a broad understanding of the mission's context," Romaine said. These are capabilities and experiences that must be made a part of junior leader development. Typically references to leadership under Force XXI Operations focus on brigade and up. The new leadership that is emerging as a result of revolutions in information management, technologies, operations, and organizations is not only for senior levels. There are unique challenges associated

with future operations in extended battlespace and in an information rich environment. Junior leaders will probably be called on to perform leadership tasks several echelons above what has been traditionally expected. An expanded knowledge base and understanding will be necessary. The leadership development that was first spelled out generally in TRADOC Pamphlet 525-5 will need to begin from the start. For Force XXI in particular, a new leadership will be required all the way down the chain to the most junior leaders. Force XXI leaders need to be developed from the start, at the junior level, in line with the projected understanding of future warfare presented in TRADOC Pamphlet 525-5.

Dr. Bruce Avolio, a noted author on the subject of transformational leadership, identifies three major components of what he calls "full range" leadership: transformational leadership, transactional leadership, and non-transactional (or laissez-faire) leadership. Since the last is not really a form of leadership at all, we can say that there are two primary kinds of leadership, transactional and transformational. According to Avolio, "All three of these components, when combined, produce adaptive leadership that can adjust or modify with each situation." Transformational leadership is defined by Avolio as the process whereby leaders develop followers into leaders. Transformational leaders are at home within dynamic, changing institutions and are ready to be agents of change, as the situation requires. Bernard M. Bass, another specialist on Full Range Leadership, and in particular, transformational leadership, argues that transformational leadership is a particularly effective and appropriate leadership style for the military. Transformational leadership is primarily concerned with values, ethics, standards, and long-term goals, where transactional leadership, as the name implies, is concerned with short-term rewards. Transactional leadership has been identified with management by exception and passive leadership, or in other words, leaders wait for problems to arise before implementing corrective measures. Another noted author and researcher on leadership issues, James MacGregor Burns, writes that the transforming leader "is one who, though initially driven by the search for individual acknowledgment and recognition, ultimately advances communal purpose by being attuned to the objectives of his or her followers." For all these reasons it is clear that as long as the Army is committed to change, both institutional and operational, and wedded to the idea of being a learning organization, transformational leadership should be a centerpiece of leadership doctrine.

There is an important connection between Army Transformation, future war, and transformational leadership. With all that is demanded under Force XXI, for leaders at all levels to be adaptive, quick thinkers, provide vision and direction amidst chaos and ambiguity, this suggests that transformational leadership is the leadership mode of choice for the future force. Although there were transformational aspects present in printed doctrinal materials, the leadership model suggested by AirLand Battle was essentially transactional. Transformational leadership was deemed important but not necessary, as indicated by it garnering only a passing mention in FM 22-100. AirLand Battle leaders were administrators of detailed, hierarchical systems in peacetime,

executors of a mechanical doctrine based on detailed tasks during operations. More than merely more of the same, Force XXI leaders will need to be far more transformational and technologically capable. Transformational leadership is the answer to the leadership demands of Force XXI. Force XXI leadership also emphasizes the importance of improving systems as well as operating successfully within them. Thomas D. Huse's central argument, in his Command and General Staff College monograph, "Transformational Leadership in an Era of Change," is that transformational leadership is necessary for the Army to operate effectively in the present asymmetric operating environment and weather the change it is facing today and into the foreseeable future. The leadership model under AirLand Battle which was primarily transactional, has given way to a more transformational leadership model under Force XXI Operations.

The Army has always ostensibly required the best leaders possible. The Army's Transformation Roadmap for 2003 spells out clearly the need for "competent, confident, self-aware and decisive leaders, prepared for the challenges of full-spectrum operations in joint, interagency and multinational environments." The Army's leadership expectations are clearly high. Junior leaders will lead positively amidst near continuous organizational, institutional and operational change; lead ethically and serve as a constant ethical standard for the institution; and lead diverse units across the full spectrum of operational environments from humanitarian assistance to major theater conflict. There is no reason to believe the fundamentals of leadership have changed much since the age of Hannibal and Caesar, however the manner in which leadership will be exercised under Force XXI Operations is revolutionary. Force XXI leaders will do what Army leaders have always done, but they will do more and they will do it in revolutionary ways.

The Army is comfortable with its antiquated leadership model as evidence by its defense of the current Be-Know-Do leadership doctrine (the SKAB model). According to the Army's Transformation Roadmap for 2003: "…the Army's leadership framework of "Be, Know, Do" is relevant to realizing both Current and Future Force capabilities." Change in the area of leadership doctrine will be more difficult than simply integrating new technologies like smaller, more powerful radios or red-dot aiming lights. According to the statements made in TRADOC Pamphlet 525-5, Force XXI should focus more on leadership than earlier doctrine, along with emerging technology. A large amount of attention has been given to future force structures, the so-called Units of Action and Units of Execution, information-based warfare, and new weapons. An equal amount of attention should be given to what implications these developments will have on junior Army leaders, as they will be the leaders needed in the future to complete Army Transformation, which is not projected to be complete before 2030. As it is, the Army has experienced a tortuous process of trying to replace FM 22-100 and as yet has not been able to produce an updated joint version of military leadership doctrine. A replacement for FM 22-100 is conspicuously missing from current joint doctrine publications. The changed model, with a much greater role for transformational leadership at all levels, will be significantly more complex than its AirLand Battle-dated

predecessor. It is easier to address organizational and technological changes than to overhaul the thing that most distinguishes the Army as a professional organization — its leadership model. Walter F. Ulmer, Jr., quoting Paul Van Riper and Robert H. Scales, Jr. in his very important article, "Military Leadership into the 21st Century: Another 'Bridge Too Far?,'" notes that leadership more than technology will determine who wins and who loses in future warfare.

Basic warrior skills and the fundamental nature of close combat, and hence leadership, will not dramatically change as a result of Army Transformation. Current U.S. Army doctrine holds that leadership is the most significant element of combat power and there is no reason to believe this will change. Force XXI Operations has already begun to change organizations and operations at the company level, and changing operational concepts have already reached down all the way to the junior officer level of platoon leaders and company commanders. The first Force XXI division organization — the "digitized" 4th Infantry Division — has already demonstrated itself in combat operations during Operation Iraqi Freedom.

These are the revolutionary developments junior leaders can expect to experience today and in the future: flatter, more inter-netted organizations, the complete digitization of the battlespace and the continuing drive for information dominance, faster, more rapidly changing operations, and an ambiguous and asymmetric threat environment. Future force organizations will be necessarily flatter as a result of the wide availability of planning information. Planning will no longer need to be done up and down rigid chains of command but also across multiple organizational lines according to the availability of relevant information and operational needs. Junior leaders must be prepared for future force structures that are flatter, more inter-netted — generally speaking, an "organic" organization model, as opposed to a mechanical model. The realities of joint and combined operations, noncombat operations, and nontraditional threats present themselves to even junior leaders today, requiring a

Sergeant Michael A. Abney

Soldiers with the 82nd Airborne Division's 1st Battalion, 505th Parachute Infantry Regiment, enter a building during a combat raid in Zurmat, Afghanistan.

broader understanding of war including "ideas on military art and science that go beyond traditional models and the views of primarily Western theorists." Changing doctrine, changing nature of warfare with the realization of the information age, and changing warfighting technologies all mean changes to the character of tactical operations — the experience of junior Army leaders.

The Force XXI leadership implications are the most sweeping and profound that the Army has faced since the Second World War. The heavy emphasis on information systems and networks is what is driving the higher demands for mentally agile, intuitive, and adaptive Soldiers. That study also implies that there are inherent risks in assuming that Soldiers can be transformed according to a new skill set appropriate to Force XXI Operations. This adds to the importance of determining with more clarity exactly what will be expected of junior leaders in the future force. The Force XXI junior leader — once properly trained and developed — should be more aggressive, more knowledgeable, more informed, and more confident.

The Army will continue to recognize the primacy of leadership. According to Army Chief of Staff General Shinseki, "We are about leadership; it is our stock in trade…." The Army also recognizes

that to remain relevant in the current joint warfare environment it must complete Transformation. That process is dependent on developing a new breed of leader, optimized for dealing with future threats, prevailing in future war and thriving in change. The Army recognizes that it must understand the leadership implications of the RMA. For these reasons, the full implications of Force XXI must be understood, disseminated, and acted on, starting with junior leaders today. The Army is convinced that in order to exploit geopolitical and technological changes and successfully practice an emerging revolutionary form of warfare, what some have called information age warfare, the Army must embrace a radically new doctrine — that doctrine was first presented in 1994 as Force XXI Operations. Although TRADOC Pamphlet 525-5 signaled revolutionary changes for junior Army leaders, more attention has been given to emerging technologies and organizational changes than to a revising the Army's leadership model.

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The complete reference list for this article is on file with *Infantry* Magazine.

The Battle of Huwayjah

CAPTAIN SCOTT W. CARPENTER

At the time this article was written, CPT Carpenter was serving as the commander of A Company, 1st Battalion, 27th Infantry, 25th Infantry Division (Light), which is currently deployed to Iraq. Carpenter was the ground commander in Huwayjah 7 April 2004.

On 7 April 04 at approximately 0945hrs, I left Forward Operating Base (FOB) McHenry to go to the weekly city counsel meeting. I was escorted by two squads from my second platoon led by First Lieutenant Gary Kaldahl (White 6). We road in Humvees along the South Eastern road that takes you to the east side of the city in order to go into the Iraq National Guard (ING) compound adjacent to the city counsel building. Upon entering the city, we observed a protest march of approximately 300-500 people moving east down what we call Market Street, which runs east-west through the center of the city of Huwayjah. As we drove into the ING compound, the protest march closed up to the entrance of the compound from west to east (Diagram 1). We dismounted our vehicles and began to move to the adjacent building which was the city counsel building. I gave the order to call Wolfhound base and launch the quick reaction force (QRF) to the city counsel building in case the protest turned violent. ING soldiers in the compound told me that this was a peaceful protest and was only a student demonstration.

1LT Kaldahl (White 6) was responsible for clearing and securing the city counsel building while I conducted the meeting along with my company fire support officer, First Lieutenant Robert J. Heatherly, whose job was also information operations (I/O) for my area of responsibility. During the city counsel meeting at approximately 1030hrs, I heard a single rifle shot followed three minutes later by another rifle shot. During this time, White 6 had moved to the roof because he thought he observed a man with an RPG-7 (rocket-propelled grenade) and wanted his sniper to confirm if he could see the enemy. The city counsel was nervous and asked to leave and continue the following week. I began to leave the counsel building and I heard the sniper, Specialist Roberto Zuniga-Saucedo, begin to engage with his M14 from the roof of the counsel building. I immediately moved to the roof to see what he was shooting at with my RTO, Specialist Robert H. Chapman, and 1LT Heatherly. SPC Zuniga reported that he could see a single male with an RPG-7 around a corner on Market Street. He continued to engage until he said he shot the enemy in the shoulder. The company command and control (C2) element then began to hear firing from the south side of the city counsel building. I moved to the

rear of the building with my RTO. On the roof were several Soldiers from 2nd Platoon under the command of Staff Sergeant Andrew W. Gregory. We all could see firing from a building that was 200 to 250 meters from us. We began to engage the enemy and one fired an RPG –7 that missed the city counsel building and went somewhere into the houses on the north side of the building. I reported this through my RTO who relayed through my vehicle based on its communication package in order to reach the FOB McHenry approximately 4.5 kilometers away.

Simultaneously, the QRF from Bravo Company was in the center of the street engaging enemy who were firing RPG-7s straight down the street at our Solders and Humvees. I gave the order to maneuver on the enemy and 1st Platoon, Bravo Company began to push forward being supported by 2nd Platoon from Alpha Company and their gun vehicles. I requested another platoon through battalion and received my 1st Platoon under the command of Second Lieutenant David S. Morgan (Red 6). They launched with my executive officer (XO)
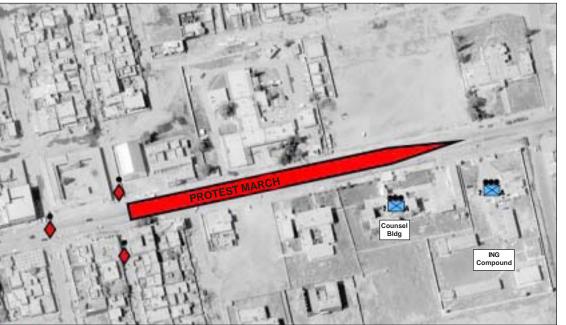
Diagram 1

Diagram 2

First Lieutenant Christopher A. Hopes (Black 5) and my acting first sergeant Sergeant First Class Steven Green (Black 7) from FOB McHenry. While they were moving to the city, I relocated myself and my RTO over to the ING compound where I could see what was happening with the QRF platoon from Bravo Company.
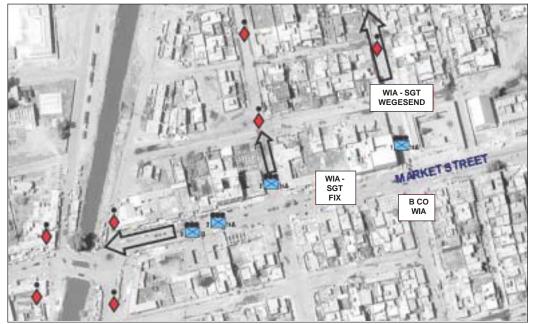
First Platoon entered the eastern side of the city because I reported that the fight was moving toward the canal which ran north-south. This canal divided the city by three bridges that you had to use in order to get from east side to the west side of Huwayjah. I was also trying to confirm the enemy because we were receiving fire from the south and west sides of the city. When the XO and my 1st Platoon leader were coming into the city, they ran into a wire obstacle that had been dragged over the street to prevent either entrance or exit from the east. They quickly reduced the obstacle and moved into the ING compound (Diagram 2). I called the 1st Platoon leader (RED 6) and told him to move his platoon across the street and move west down market street and re-enforce 1st Platoon from Bravo Company. My C2 element moved with 1st Platoon towards the enemy contact since we were now taking a lot of heavy machine gun fire and RPG–7s straight down Market Street. We moved down about three blocks and came upon one Bravo Company Soldier, who was wounded in the lower leg and upper arm and was being stabilized by their platoon medic. I called for the company C2 vehicle to move forward in order to relay through my RTO to battalion to provide another platoon to maneuver from the south of the city and try and flank the enemy. My XO (Black 5) arrived and I told him to put the wounded Soldier in my vehicle and get him back to the ING compound. We decided to use the ING compound as our company casualty collection point (CCP) to extract wounded. I then crossed back to the north side of the street because we were being engaged from a side street to the north. During our movement, we saw a wounded Soldier (Sergeant Andrew J. Fix) being helped by Specialist Joseph F. Herdon because he had been wounded in the leg. They could not cross to us because of the fire so the RTO, my FSO, and I laid down a base of fire and suppressed the enemy which allowed them to cross the street. My vehicle arrived back to my location on Market Street. I told them to put SGT Fix into the back seat. I then yelled to Red 6 to push a squad north up to the street that we were taking fire from. They maneuvered up to the first intersection. When the team leader, Sergeant Don K. Wegesend, attempted to cross, he was wounded in the arm by AK-47 fire coming from the northwest corner of the next block over to the west. I then jumped into my vehicle and told my driver (and company training room NCO) Corporal Kenneth W. Day to drive up to them because we had an up-armor Humvee. I yelled at them to put SGT Wegesend into the vehicle, but they went right past it. I told CPL Day to go back and get SGT Wegesend and take them both to the ING compound. At that time, I received a report from the Bravo Company platoon, that they were trying to get across the canal at the Market Street bridge but were receiving heavy fire. I called battalion and told them I needed my 3rd Platoon to come up from the south and cross the southern bridge and attempt to flank the enemy; this would allow the Bravo Company platoon to cross the bridge and continue to push the enemy west.

Diagram 3

Meanwhile, I called Red 6 and told him to push his squads north up the two streets running parallel to each other (Diagram 3) where the enemy was attempting to flank us from the north. Red 6 squads were led by Staff Sergeant Allen E. West and Staff Sergeant Chad C. Borchers. Red 6 was with Red 1 (SSG West's squad). I told him to continue to push north up to the north bridge While 1st squad, 1st Platoon maneuvered north, my FSO, RTO, and I stayed at the corner where SGT Wegesend had been wounded. I could see the end of an RPG-7 sticking out of the corner wall, but the enemy would not expose himself. SSG Borchers' squad (Red 2) moved up that street and caught four enemy soldiers up against the block wall, engaged, and killed all four. I then moved west down to Red 2's squad and told him to keep moving north along his street and link up with his PL that was a street further over to the east moving in the same direction. I had my C2 vehicle pull forward so I could report to battalion again and talk directly to the S3.
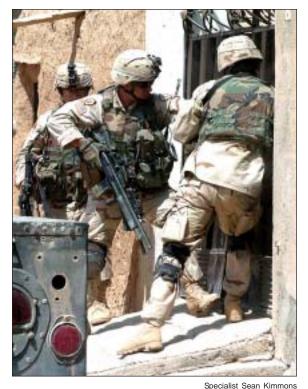
At that time, we had Apaches on station. I threw an HC smoke to identify my location and then directed him to look for enemy forward of the platoons. I gave orders to engage any personnel carrying a weapon in civilian clothes. Simultaneously, my 3rd Platoon arrived at my location with an (FLA) and the battalion command sergeant major, CSM Karl K. Morgan. I told the CSM and the FLS to move to the ING compound to extract our wounded Soldiers. I knew I had one platoon from Bravo Company and two platoons from my company to maneuver with the third platoon securing the ING compound and the city counsel building and engaging enemy to the south. I then told 3rd platoon led by First Lieutenant Timothy Ungaro (Blue 6) to move west on market street and cross the middle bridge. 3rd Platoon then pushed west along the street maneuvering on all enemies that they encountered.

At that time, I received a call from my 1st Platoon leader (Red 6). Red 6 reported he had three more wounded from Red 2's squad. I jumped into my vehicle and told my FSO, who now had his full team, to follow behind my vehicle as I pushed north to find Red 6 and his wounded. He said his second squad had pushed north across the north bridge chasing enemy (Diagram 8). Upon entering an industrial area, they encountered an enemy RPG-7 ambush waiting for them. The enemy volley fired three RPGs at them. One went high, one was a dud, and one landed in the middle of a fire team wounding Sergeant Jay R. Lawrence in the forearm, Specialist Ryan J. Goede in the head and Private First Class David L. Godwin in the leg. The shrapnel also wounded a little girl. The squad leader was not sure where they were (Diagram 4). He could only say they were in a field near the north water tower. I told SPC Chapman and CPL Day to drive with me. We moved across the north bridge to

Specialist Sean Kimmons

Soldiers of Co. A, 1-27 Infantry, force themselves into a suspected terrorist's home during a cordon and search mission in Iraq.

look for the 2nd squad. We went all the way north until we were at the tower. I then could see them across the fence. We had to go back the way we came. They were in an industrial park with a rod iron gate that you could only get to from the east side of the park by vehicle. I told CPL Day to ram the gate. We arrived and put the wounded inside my vehicle. At the same time, the rest of 1st Platoon made it to my location with 1LT Hopes. I told him to transfer the wounded into his vehicle with the little girl and extract them to the ING compound. I then told Red 6 to keep pushing west. I now had two platoons from Bravo Company and my 3rd Platoon. The Bravo Company QRF platoon held at the canal on the east side and overwatched from there. My 3rd Platoon crossed Market Street and pushed west in the center. The other Bravo Company platoon pushed west along the south side of the city. My intent was to push the enemy into the north-west portion of the city and kill them or force them into the open farm field were I could direct the Apache element to engage them. After the last engagement with 1st Platoon, I did not hear anymore firing in the city. I continued to push the platoons until they made it to the far west side of the city. I then recommended to battalion that we begin to

Diagram 4

WIA
SGT
Lawrence
SPC Goede
PFC Godwin

search all of the houses on the west side of the city where firing came from in case the enemy attempted to hide in the houses as we bypassed them. As we searched, we found several weapons of various types and detained several adult males who were suspected of being involved in the attack. The end result was a complete victory for the Wolfhounds, who suffered six wounded and retained total control of the city and the fight from the beginning to end. The enemy loses were far greater: 35 enemy KIA, 45 WIA, 58 detained and a terrorist who attempted to tape the attack and use it for propaganda was captured by the company XO as he attempted to flee the fight.

COMBAT OPERATIONS IN A NONCONTIGUOUS ENVIRONMENT

Lessons Learned

The mission and fighting in Iraq spans the full spectrum from routine patrols and civic engagements to intense battle that can rage throughout an entire day. This was the case on April 7, 2004. The lessons extracted are extremely relevant to today's battle field where commanders and Soldiers are expected to be politicians and warriors simultaneously. I will attempt to address the key points for company commanders who are about to deploy to this theater of operations so that you can better prepare yourselves and your company prior to deployment into combat operations. These are essential elements that commanders must master in themselves and there Soldiers so that victory on the battlefield will be met with the minimal amount of friendly casualties.

TTPs for Company and Below Combat Operations in Iraq

First thing to ensure is that you have a thorough relief in place (RIP) with the unit that you are replacing. Soldiers to commander should know every square inch of there immediate battle space before the unit leaves. You need to know every entrance, ally or short cut to the cities or villages that you are in charges of. This also includes all choke point, canals, bridges and government facilities. If you learn your battle field as well as the enemy, then you will take away there home town advantage. This was key to the company's success at defeating the enemy during the battle. I knew exactly where he could come from or retreat to in order to out maneuver the enemy forces.

Second, ensure your Soldiers are pulling active security when inside the town. You can go for months without an event happening on a civic engagement. The key to us being able to initiate the fight was my platoon leader's and sniper's ability to pick the weapon out of the crowd. Second, do not hesitate to kill the enemy when he is positively identified. My sniper was able to hit the enemy before they began their coordinated assault because of the platoon's active security measures. This immediately put us on the offense and the enemy on the defense.

Third, have battlefield patience when it comes to determining what the enemy is trying to achieve. The first place I located myself was on a roof top to gain a perspective on where the enemy was attacking from. From there I was able to see him harassing us from the south with RPG and small arms fire but because of the open fields, I knew he would not attempt to close with us from that direction. I also knew from the day before that the enemy was attempting to gain control of government buildings across Iraq in order to demonstrate their strength and to gain a media victory. Since I had control of their possible objective I knew I would have

Specialist Robert Chapman of Co. A, 1-27th Inf., apprehends a suspected terrorist as Specialist Rodriquez Cruell provides security during a later operation in Iraq.

to hold this location until reinforcements arrived.

Fourth, we are an offensive fighting organization. Do not sit still and have to react to the enemy. Take the initiative from him by closing with him with superior fire power, maneuverability and mass. I immediately called for extra platoons so that I could kill him in this place and time. I did not want to fight the same enemy more than once. Find him, fix him, and kill him must be in grained into your Soldiers.

Finally, I will talk to you about leadership. During the fight, you have to be everywhere at once. The saying the leader must be at the key point in time to influence the battle is true. Lead by example, do as I do. During the battle, I found myself controlling five platoons with attack aviation, fighting as a rifleman with my FSO and RTOs, directing the flow of casualties to my XO, telling platoons and squads to continue to maintain contact and going forward of my platoons to locate a lost squad that had wounded with my RTOs. This is only possible if you train yourself and your Soldiers to fight and win on the battlefield.

Captain Scott W. Carpenter is a 1996 graduate of Arizona State University. At the time this article was written, CPT Carpenter was commander of A Company, 1-27th Infantry, 25th Infantry Division (Light). He previously served in the 82nd Airborne Division and 1st Battalion, 75th Ranger Regiment as a platoon leader.

A NEW LOOK AT THE INFANTRY COMPANY

COMMAND SERGEANT MAJOR JACK P. HARDWICK, U.S. ARMY RETIRED
SERGEANT MAJOR OF THE ARMY JULIUS W. GATES, U.S. ARMY RETIRED

Old rules no longer apply. It is not business as usual. This State of War requires us to challenge old paradigms, to be flexible and adaptable to face a cunning and devious enemy.

— General Peter J. Schoomaker,
Chief of Staff of the Army

The Infantry is the foundation of the Army and everything it does. The Chief of Staff of the Army (CSA) has said, "Every Soldier is an Infantryman first." Every Soldier goes through basic training where they learn the basic skills of being a Soldier. That basic training is structured around the infantry squad because it serves as the foundation for learned teamwork.

No matter what job the Soldier performs after basic training, that Soldier will grasp that it is the "grunt" infantryman that deliberately seeks battle with the enemy. A headline on the front page of the 6 September issue of the *Army Times* drove that point home — "Grunts Rule."

But taking point number one that the infantry is the cornerstone of the Army along with the CSA's guidance to examine all in this time of war, Sergeant Major of the Army (Retired) Bill Gates and I asked ourselves, "Are infantry small units ready for the combat of today and tomorrow?"

The current infantry squad is nine men. Back in Vietnam, it was 11 men. Still, the design is about the same with the squad leader, team leaders, automatic riflemen, riflemen, and grenadiers. Their mission is the same: close with and destroy the enemy, generally as part of a platoon. What happens when that squad is expected to operate on a sustained basis, either as an independent squad or a formation smaller than a platoon? Is the squad — and most importantly the squad leader — trained, equipped, and organized for noncontiguous operations on the urban battlefield?

Let's look at the next level of infantry command and control — the platoon. The leader of that platoon is the newest officer in the Army; anecdotes about green second

lieutenants are legion. It has been that way for longer than any of us care to remember. In the past conflicts of the United States — especially the large scale conflicts of WWI, WWII, and Korea — platoons operated on a linear battlefield with contiguous flanks and defined rear areas. Command and control, along with support for platoon operations, came from the next higher and succeeding levels of command. Vietnam saw increased use of semi-independent platoon operations; it also saw particular strains on small unit leaders, officers and NCOs. But generally speaking, the platoon was and still is organized to fight the same direct fire fight given to the squad: to close with and destroy the enemy.

The direct fire mission remains valid. We still expect that platoon leader to direct his platoon in the direct fire mode, but that mission has grown more complex. The platoon leader can call on Army aviation and the Air Force for aerial fires. He can call for indirect fires from artillery or mortars. If he is in a mechanized unit or a

Stryker brigade combat team, he has supporting fire from his vehicles. Even if he is a "light fighter," he may be able muster armor against his enemy in the direct fire fight.

The contemporary operational environment (COE) and stability and support operations (SOSO) transform the simplicity of the direct fire battlefield for that platoon leader and his squads. Rules of engagement (ROE) mean that first he must decide when a fight is in the cards. He must know his surroundings and the people present, even as they and his situation changes from moment to moment. The platoon leader may be called on the execute national policy through his actions in supporting larger Information Operations. And he not only must maintain battlefield awareness, but must update his higher command of the situation.

"We fight in close combat, hold key assets and terrain, decisively end conflict, control the movement of people, protect resource flows, and maintain post-conflict stability," GEN Schoomaker has said. Do you think the platoon leader may be in a little over his head? We do. The platoon leader is just learning his trade even as he attempts to tackle tasks formally reserved for War College graduates. That platoon leader is doing an astoundingly good job, but we do think we could set them up for greater success.

We suggest restructuring of infantry squads, platoons, and companies to provide more seasoned leaders. The platoon of today and tomorrow needs a captain as its commander with a lieutenant as executive officer. The captain has the maturity and experience level to coordinate all of the actions on the battlefield. He has more experience in dealing with nontypical missions of COE and SOSO than a lieutenant still learning to apply basic lessons. That same captain along with the platoon sergeant and squad leaders can mentor the young lieutenant. This would also give you a command structure to remain with the support element or vehicles. The lieutenant can then move through the staff sections and return back to the platoon a more experienced leader. Most importantly, experienced leadership is a combat multiplier that would make the platoon capable of greater independence, increased lethality, and overall effectiveness. Put bluntly: teaching green lieutenants would not cost lives, theirs and
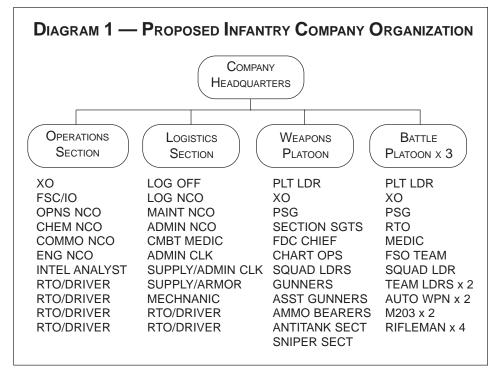
those of their Soldiers.

Moving on to the next level of command, the company, we recommend that the infantry company commander would become a major's slot. A smaller Army coupled with SOSO considerations in the COE means that company commanders face the same challenges that once went to battalion and brigade commanders. If you have any doubt on this point, review the stream of reports coming back from Operations Enduring Freedom and Iraqi Freedom. Those same trends have been validated at the Joint Readiness Training Center since the beginning of the Global War on Terror. The potential benefits to unit effectiveness are in our opinion exponential. A standard company with three platoons has some 8-10 years total officer experience. Increased leadership in that same three platoon company would give the unit more than 25 years of experience in its officers.

We also believe that such a structure would improve the current progression of an infantry officer. He will start out as a platoon leader for about a year; possibly go to a specialty platoon or staff and then maybe a company XO slot. As a captain, he will be a company commander for about two years. Most captains only get to command one company then they are on to school or staff before going to school. A major is staff and as a senior major a battalion XO. Once he makes lieutenant

colonel, he could be selected to be a battalion commander. Changing the progression as we suggest would give infantry leaders greater opportunity to command Soldiers.

As GEN Schoomaker said, "We train and equip Soldiers and grow leaders. We deliver relevant and ready land combat power to the combatant commanders and the joint team."

Diagram 1 shows one of our suggestions. The configuration can be modified to fit the unit. We do think that this will allow the company to meet any enemy force current and future, engage them at the lowest level, and defeat them.

Let's flesh out our design by first looking at the officers in the company. As stated above, a major commands the company; he has 11-12 years experience. As a lieutenant, he first learned his trade under the wing of the experienced captain who commanded his platoon. After serving as an platoon XO, he went to company staff before returning as a captain to command his own platoon. As a captain with platoon command under his belt, he served on battalion and/or brigade staff. Now a major, he has attended all of the schools that he is suppose to including the career course and Command and General Staff College (CGSC). His executive officer is a senior captain who also is the operations officer for the company. A career course graduate, he has had his platoon command and been successful. All of the

DIAGRAM 1 — PROPOSED INFANTRY COMPANY ORGANIZATION

COMPANY HEADQUARTERS

OPERATIONS SECTION	LOGISTICS SECTION	WEAPONS PLATOON	BATTLE PLATOON X 3
XO	LOG OFF	PLT LDR	PLT LDR
FSC/IO	LOG NCO	XO	XO
OPNS NCO	MAINT NCO	PSG	PSG
CHEM NCO	ADMIN NCO	SECTION SGTS	RTO
COMMO NCO	CMBT MEDIC	FDC CHIEF	MEDIC
ENG NCO	ADMIN CLK	CHART OPS	FSO TEAM
INTEL ANALYST	SUPPLY/ADMIN CLK	SQUAD LDRS	SQUAD LDR
RTO/DRIVER	SUPPLY/ARMOR	GUNNERS	TEAM LDRS X 2
RTO/DRIVER	MECHNANIC	ASST GUNNERS	AUTO WPN X 2
RTO/DRIVER	RTO/DRIVER	AMMO BEARERS	M203 X 2
RTO/DRIVER	RTO/DRIVER	ANTITANK SECT	RIFLEMAN X 4
		SNIPER SECT	

platoon leaders are captains who have had time on the staff and possibly have attended some schools. The fire support officer is a first lieutenant and is also the intelligence officer for the company operations. The logistical officer is a 1LT. The weapons platoon XO is a senior 1LT who is school trained in mortars and anti-tank. The rifle platoon XOs are 2LT or 1LT, learning their trade.

We see the need to do the same for the NCOs and other enlisted Soldiers of the company. The first sergeant we will now call the Battle 1SG. He will be able to be on the battlefield with the unit and go where he is needed to solve problems. Historically, he was the "Beans and Bullet" person. The platoon sergeants should be the Battle PSG again so they can be at the tip of the spear with the platoon commander to assist him better.

There are other sergeants first class within the company that are not maneuver platoon sergeants, but their duties are just as valuable like the operation sergeant and logistical sergeant. Both of them should be battle staff qualified. The operations section and the logistical section should have as many as possible battle staff qualified people in them in order to produce a better product for the company and the battalion.

The Weapons Platoon should have three section sergeants all staff sergeants, one for the mortars, anti-tank, and sniper teams. The rifle platoons squad leaders should be staff sergeants and they should be crossed trained in intelligence and operations. The squad leaders for the mortars should be sergeants and all should be crossed trained in intelligence and operations. The gunners should be specialist and crossed trained in medical, communications, and weapons maintenance (armor). The assistant gunners should be crossed trained in AT weapons and engineer. Ammo bearers would be private to specialist and well trained in their duties. The team leaders for the rifle squads should be sergeants crossed-trained in engineer and/or medical training. The automatic rifleman should be a specialist crossed-trained in intelligence and weapons maintenance. The M203 gunner should be a specialist and crossed-trained in communications and fire support. The four riflemen should be private to specialist crossed-trained in one of the following: vehicle maintenance, medical, engineer, and fire support.

As you can see, this will give everyone more experience as they progress to the different levels. By cross-training, we mean Soldiers would be school trained with a secondary MOS. For example, a Soldier cross-trained in intelligence would have a secondary MOS as a 96B. We further suggest that the courses for the infantry Soldier should only be what he must know, which would reduce the time the Soldier is away from the unit or if possible conduct the course online or through distance learning.

Today, we are asking platoon leaders to do what company commanders did at one time and we are not giving them the resources to accomplish the mission. We are asking company commanders to do what battalion staffs do and they do not have a staff. The work that these leaders are doing now is outstanding. We see their resourcefulness daily at being thrown into new complex situations and continuing to make things happen. The young squad leader who has to go into town and deal with the local people must still know how to fight his squad. The American Soldier is truly a magnificent human being for all that he does and is expected to do. We think with this new look and the new make up of the units and a three-year life cycle this should allow a Soldier to move up within his squad. They should have

Soldiers from the 1st Battalion, 505th Parachute Infantry Regiment conduct a presence patrol in Asadabad, Afghanistan, October 5, 2004.

promotions and challenges for him to continue to learn.

Major General James Fry said, "There is no type of human endeavor where it is so important that the leader understands all phases of his job as that of the profession of arms."

We agree. We think that bringing the leaders up both commissioned and noncommissioned officer in this manner we have provided them with the tools for success. Being successful is not only winning the battles, but keeping our great Soldiers alive. We have purposely not gone through each unit by type and have not addressed equipment issues. We understand there would be some variations due to units make up and missions. We are sure we have not arrived at the 100-percent solution, but we have provided another look at an Army that is in the process of change for the future. We know people do not like change; however, change is the only way to survive.

Command Sergeant Major Jack Hardwick, U.S. Army Retired, is currently working for MPRI as the Senior Enlisted Trainer at the Joint Readiness Training Center at Fort Polk, Louisiana. CSM Hardwick's last active duty assignment was as the JRTC Operations Group CSM. He also served as the brigade CSM for the 3rd Brigade, 101st Airborne Division during the first Gulf War.

Sergeant Major of the Army Julius W. Gates, U.S. Army Retired, is currently serving as the liaison officer for the Army Research Institute at the Joint Readiness Training Center. He served as the 8th Sergeant Major of the Army from July 1987 until June 1991. During his 33 years of service, he completed three tours in Germany, two combat tours in Vietnam and a tour in the Republic of Korea.

THE BEAR FACTS:

Russians Appraise the Stryker Brigade Concept

LESTER W. GRAU
ELENA STOYANOV

The Stryker brigade concept is a matter of some interest to the Russian Army, which has inherited a long tradition of using wheeled personnel carriers in concert with tracked personnel carriers. In Soviet times, Motorized Rifle Divisions normally had three motorized rifle regiments, a tank regiment and an artillery regiment. Two of the motorized rifle regiments were mounted on wheeled armored personnel carriers (BTRs), while the third was mounted on tracked armored personnel carriers (BMPs). BMPs were recognized as the tougher, more effective combat vehicle, but even the Soviet Army occasionally had to watch its rubles. The wheeled BTRs were used on secondary attack routes or as a follow-and support force while tracked BMPs were used for the main break-thorough attack in conjunction with the tank regiment. The cheaper wheeled carriers were a cost-cutting measure.

After the breakup of the Soviet Union, the Russian Army continued this TO&E (table of organization and equipment), but formed a special "peace keeping" division. The 27th Guard Motorized Rifle Division kept their BTRs and BMPs, but stored their artillery and tanks. They used their BTRs primarily for "peace keeping" roles. The Russians saw the "peace keeping" division as a patrolling and stability unit, not a combat unit, so the prominence of the more road-bound wheeled carriers made sense.

When the Russians joined NATO in Bosnia-Herzegovina, they contributed an airborne regiment. The regiment was mounted on the cramped, air-droppable BMD tracked armored personnel carriers. Once the ground situation settled, the Russian regiment was augmented with a number of BTRs.

The BMD is just too cramped and uncomfortable for long-term patrolling missions. Russian troops in Chechnya use a combination of BMPs and BTRs. The BMPs are employed for anticipated combat, while the BTRs are used more for patrolling and administrative movements where a truck or jeep would be at risk.

The Russians are interested in how other countries employ tracked and wheeled troop carriers. The June 2004 issue of the Russian Foreign Military Review carried the following article, which was titled "The Formation of the Mechanized 'Stryker' Brigade in the U.S. Army:"

In 2003, the U.S. Army formed its first "Stryker" Mechanized Brigade, the 3rd Brigade, 2nd Infantry Division based at Fort Lewis, Washington. It is part of the transition to a new type of army.

The documents and regulations governing this force, its tactics, TOE, armaments and equipment were developed in 1999. The mission was to form, in the first decade of the 21st Century, a combined arms unit capable of rapid deployment and decisive action in any part of the world during combat or peacetime.

The Stryker Brigade has a headquarters element, a HHC, three infantry battalions, a reconnaissance battalion, an artillery battalion, a support battalion and four separate companies — antitank, military intelligence, engineer and signal.

The TOE strength is 3,614 personnel. The brigade has 308 Stryker armored vehicles, 12 towed M198 155mm howitzers, 66 mortars (l20mm, 81mm and 60mm), 10 TOW-2 ATGM launchers, 121 "Javelin" ATGM launchers, and three

"Shadow 200" UAVs. (See Organization chart and Personnel and Key Equipment Chart).

There are 121 personnel in the HHC and brigade staff The headquarters supports the brigade commander in directing the subordinate units in peace and war. It is organized into a command group and seven sections-intelligence, training, command and control, air movement, fire control, nonlethal weapons employment, communications and computers. The HHC supports the brigade staff. It has two groups of liaison officers and five sections: command, personnel, support, signal and medical.

The mechanized infantry battalions have 691 personnel each. They are the primary combat units of the brigade, capable of conducting all types of combat as well as peace-support missions. Each battalion has a headquarters, a HHC and three mechanized infantry companies.

The HHC has a reconnaissance, mortar and medical platoon as well as a sniper squad. The reconnaissance platoon is mounted on four reconnaissance Strykers. The mortar platoon has four M286 120mm and four M224 60mm mortars.

Every mechanized infantry company has three mechanized infantry platoons and a fire support platoon with a mortar and a sniper section. The mechanized infantry platoon has four Stryker vehicles and three "Javelin" ATGM launchers. The fire support platoon has three Mobile Gun System Stryker vehicles and its mortar section has two M286 120mm and two M224 60mm mortars.

The cavalry squadron (reconnaissance, surveillance and targeting battalion) has 428 personnel to support the commander and brigade units with intelligence, targeting combined arms fires and assessing the results in near-real time. The battalion is organized into a headquarters, HHC, three reconnaissance troops and a one electronic surveillance troop.

Each reconnaissance troop has three reconnaissance platoons, each of which is mounted on four reconnaissance Strykers each with "Javelin" ATGM launcher. Each platoon also has a mortar section with two 120mm M286mm mortars.

The electronic surveillance troop has a headquarters and three platoons: a UAV platoon with the "Shadow 200" launcher and three aircraft; a ground sensor platoon with four GSR radar and a NBC

reconnaissance platoon mounted on three Fox Stryker vehicles.

The artillery battalion has 290 personnel for fire support to the brigade elements. It has a headquarters, an HHB and two artillery batteries as well as a target acquisition platoon.

Each artillery battery has two firing platoons, each platoon having three M198 155mm towed howitzers. The target acquisition platoon has the Q-36 and Q-37 radar.

The brigade support battalion has 338 personnel with a headquarters and three companies; an HHC and distribution, a maintenance and a medical.

The antitank company consists of 53 personnel who destroy armored vehicles and enemy strong points. The company has three antitank platoons and three sections — headquarters, fire direction and medical. Each antitank platoon has three TOW-2 launchers mounted on Stryker vehicles.

The military intelligence company has 67 personnel that conduct reconnaissance, gather data and analyze it for the brigade. The company has a command group and two platoons. Each platoon is responsible for a separate brigade axis.

The engineer company has 120 personnel to support the brigade. It has a headquarters and three engineer-sapper platoons and an engineer support platoon. Beside engineering equipment, the company has four "Javelin" ATGM launchers.

The signal company has 74 personnel and supports the brigade commander, staff and brigade elements with various signal support. It has a headquarters, two signal platoons and a support platoon.

The main organization difference in the TOE structure of the Stryker brigade is that it has replaced all the heavily- armored tracked vehicles (the M1 Abrams tank, the M2 and M3 Bradley Fighting and reconnaissance vehicles, and the Paladin M109A6 self-propelled howitzer) with the wheeled armored LA V-III vehicle, the Stryker, and the towed M198 howitzer. The weight of each of these systems does not exceed 19 tons.

The Stryker is based on the Canadian LAV-III "Kodiak" and is named in honor of two US soldiers, Stewart and Robert Stryker-who were noted for their service in World War II and Vietnam. The Stryker Brigade has two primary types of Stryker-LA V-III troop carriers and LA V-III Mobile Gun Systems. Other specialized Stryker vehicles

are equipped for reconnaissance, command, engineering support, artillery spotting, NBC reconnaissance and medical evacuation as well as mortar carriers and anti-tank vehicles.

Despite its lack of M1 Abrams tanks and M2 and M3 Bradleys, American military specialists do not consider that the Stryker brigade is any less effective than the US heavy brigades. The mechanized rifle companies have the minimum essential fire power due to their organic platoons of Mobile Gun Systems armed with a 105mm cannon plus their mortar sections and a sniper groups.

The brigade's ability to conduct reconnaissance and command subordinate units is greatly enhanced by the inclusion of an organic cavalry squadron and an MI company. These units have the "Shadow 200" UAV system and a command and control computerized information system which is under development.

The Brigade's TO&E was determined and the precise dimensions of the equipment was designed in order to fit in all models of US transportation aviation, including the C-130 "Hercules." This significantly enhances the mobility of the brigade. According to American experts, the unit and its equipment can be moved from the American continent to any region of the world within 96 hours.

The most apparent weakness of a mobile unit is its inadequate combat power for penetrating a prepared defense. Second, is its high vulnerability to artillery fire and anti-tank systems during combat with a well-armed opponent. The US Army Senior Command feels that these weaknesses can be offset by aviation support from the USAF, USN and coalition air forces. In addition, the brigade can be reinforced with tanks, artillery, air defense systems and army aviation from division or corps. According to American experts, the real assessment of the Stryker brigade's combat potential will come only after it has fulfilled its mission to stabilize Iraq. One brigade has been stationed in Iraq since January 2004.

The military leadership of the U.S. plans to field four more active-duty Stryker brigades by 2009. They will be the 1st Brigade, 25th Light Infantry Division (Fort Lewis, Washington), the 172nd Separate Infantry Brigade (Fort Wainwright, Alaska), the 2nd Light Cavalry Regiment (Fort Polk, Louisiana) and 2nd Brigade, 25th Light Infantry Division (Schofield Barracks, Hawaii). There will be another
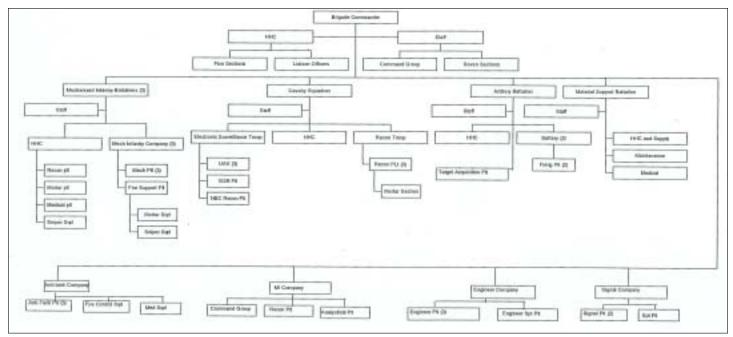
Figure 1 - Stryker Brigade Organization

Stryker Brigade formed from the 56th Infantry Brigade of the 28th Infantry Division (Philadelphia, Pennsylvania) of the Army National Guard. During the course of the transformation, there can be corrections made in TO&E, they can add an organic army aviation battalion, improve the personnel and equipment mix and modernize the equipment, etc.

As a next step, the U.S. Army plans to incorporate the Future Combat Systems (FCS) vehicle as part of its transformation process. The U.S. Army will form another new type brigade, based on its Stryker experience, by 2010.

The TO&E of the Stryker brigade changes rapidly and the Russian article is slightly out-of-date. However, it has captured the main points and spent a lot of time on details. The article also ran pictures and specifications of most of the vehicles and weapons in the Stryker brigade.

The Stryker brigade is similar in size and number of vehicles to the old Soviet BTR regiment. The Soviet BTR regiment had three motorized rifle battalions, an organic tank battalion, howitzer battalion, reconnaissance company, NBC reconnaissance and decontamination platoon, engineer company, signal company, maintenance company, transport company, medical company, supply platoon and band. Much of the combined-arms structure of the Stryker brigade is comparable to that of the older BTR regiment, although the Soviet regiment had much more firepower and the US model has much more intelligence-gathering capability. The Russians realize that their BTR regiments lacked breakthrough power and were very vulnerable to enemy artillery and anti-tank fires. Consequently, BTRs were never used for the main attack. They see similar vulnerabilities in the Stryker brigade. It is interesting to note what is missing from the Russian Stryker article. First, there is no real discussion or excitement about using information technology as electronic judo to outperform an opponent and substitute electrons for armor plate and fire power. The presence of advanced computers and the eventual delivery of advanced computerized C4ISR is noted, but not developed. Second,

the stand-alone nature of the Stryker brigade is not accepted. The Russians still see this as a underpowered brigade that needs augmentation and lots of air support to carry out a mission when confronted with a well-armed, well-positioned enemy. Third, the air transport issue is not as important to the Russians. Russia is a continental power. In the days of the Soviet Union, they resolved their air transport issues by building wing-in-ground effect aircraft capable of carrying the standard tanks, self-propelled howitzers and armored personnel carriers. Their philosophy was to build a large enough aircraft to hold and move the equipment, so that the optimum combined-arms combat unit could be delivered. They see the U.S. move as sacrificing combat power and soldier protection for the sole purpose of fitting into existing, aging airframes.

The proof of the Stryker brigade and wheeled personnel carrier controversy will be in combat. Russia is currently engaged in counterinsurgency operations in Chechnya. The United States is engaged in counterinsurgency operations in Afghanistan and Iraq. Counterinsurgency places special demands on conventional forces that eventually lead to changes in training, tactics, force structure and equipment. Consequently, the Russians are watching the performance of the Stryker brigade in northwest Iraq with almost as much interest as the U.S. Both countries have a lot to learn from one another as they prepare forces to meet all the challenges of the future.

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Soldiering in Sadr City

ARTHUR A. DURANTE, JR.

This is a short story of what the war means to the Soldiers of one mechanized infantry battalion task force serving in Iraq. Task Force Lancer, a combined arms task force built around the 2nd Battalion, 5th Cavalry, normally operates from Forward Operating Base Eagle, just northeast of Sadr City.

On a rotating basis, the combat elements of Task Force Lancer occupy a temporary position at the District Advisory Council (DAC) compound in downtown Sadr City. From this

Photos by Arthur A. Durante, Jr.

fortified complex, the companies send patrols deep into Sadr City, looking for IEDs and assessing the status of various projects, the state of the economy in the city, and the status of sewage, water, electricity and trash pickup... the most important and often the least well-distributed services in this city that was built for 750,000 but holds almost 2.3 million now.

It really is incredible in Sadr City. You just don't think people could live like this. The large market is teeming, jam-packed with people, trucks, donkey carts, sheep, old people, piles of various consumer goods, young people, tons of rice in bags marked as gifts from the USA, people, and even more people. There are waves of dusty dirty-faced children, stacked pallets of soft drinks and juice, ice-sellers with huge blocks of murky, dirty brown ice (don't ask where they got the water), people, people, and more people ... it just goes on and on.

Underneath your feet there is a soft ooze of dirt, ground charcoal, spilled oil and gasoline, wastewater, decaying fruit, and remains of millions of daily meals, along with the ever-present human and animal feces. All of this is churned up, mixed, pulverized, dried in the sun, then ground up by thousands of car and truck tires and animal hooves. There are small herds of sheep and goats roaming the city constantly, along with donkeys and horses, and the ever-present mangy scrawny dogs.

The foot traffic from a million people grinds this noxious mixture extra finely. Then, it's lifted into the air by the gusty winds that whip around the corners of the buildings and across the open areas.

Once in the air, all this dust mixes with the smoke from burning garbage and from thousands of charcoal and scrap-wood

cooking fires, and, most delightful of all, the kerosene-tinged smoke from the burning cattle and goat carcasses that are dragged into fields daily and piled up there for disposal. They used to just let the feral dogs eat them, but they are burned now. Eventually, there will be a functional landfill but that, like much in Iraq, is still in the future.

The dusty miasma is everywhere. It is the signature experience of Sadr City. It settles everywhere: On you, in your hair, on your skin and your clothes, in your eyes, your mouth .... you can taste it, feel it, smell it. You exist within it, 24 hours a day.

Earlier in the year, being in the wind was like standing in front of a giant hair dryer set on high. By November, however, the weather moderated and was actually pleasant … for a while … before the rains started and the ankle-deep dust turned to a thick layer of clinging mud. Nothing pleasant lasts for long in Iraq.

The Soldiers are at the DAC compound for four or five days at a time, without a chance to do much more than pour a half bottle of water over their heads and to splash some of it into their faces in the morning. They go out on frequent patrols that check the

Sadr City, Iraq, has a population of about 2.3 million. The city roads are often congested with vehicles, donkey carts, and foot traffic.

sewage pump stations, several local Mosques, a couple of schools, and the best OB/GYN hospital in Sadr City.

On one patrol, a platoon leader tears down propaganda put up by the Mahdi Army, stuff that the people said they were afraid to take down because they might be punished. It's a little bit like fighting a gang. You have to win the counter-graffiti war along with fixing the broken water mains and picking up the trash.

The information war goes on even though the shooting war was at a semi-pause in October and November. At the hospital, the Soldiers were looking at what work had been done on the initial stages of an extensive improvement program, funded by the U.S. It will eventually, they are told, be a $10 million improvement, making the hospital one of the best-equipped and most modern in the country.

That is all well and good ... but the patrol leader notices that a large section of the wall near the gate had been recently painted and a nice sign in Arabic had been spray-painted on the now highly visible spot there. He asks the interpreter what the sign says.

"The improvements to this hospital are being paid for by the Sadr Bureau for the better health and prosperity of the supporters of Moqtada al Sadr. Allah Akbar!"

The Sadr Bureau, run by the Iraq Shi'ite cleric Moqtada al-Sadr, had neatly taken

Trash and animals often litter the streets. In addition to garbage and animal feces, the roads are also teeming with human waste, rotting food and other matter.

Propaganda put out by the Mahdi Army is is a common find on patrols. Some civilians are afraid to tear it down in fear of being punished.

credit for what the coalition forces were doing, and it didn't cost $10 million, just a half can of paint. The Civil Affairs guys suggest that signs go up, set high so they couldn't be defaced, announcing the sponsorship of each project. Another lesson learned.

Not only does the trash need to be picked up and the hospitals revitalized, but the Iraqi government needs to be seen as having a positive influence on the lives of the people of Sadr City and it's important not to let the credit fall to the Mahdi Army.

The position at the District Council Center is a strange and sometimes eerie place. It is too small, really, for the major combat elements of a battalion. Men and equipment are jammed into every nook and cranny. Tanks, fighting vehicles, and HMMWVs are parked in every available spot. The companies occupy one or two open unfurnished rooms. Platoons "hot bunk" in the limited space on the floor, with the platoon going on duty giving up its spot to the one just coming in off patrol.

The first impression is of dirt, sweat, cigarette smoke, empty Styrofoam coffee cups, guns, body armor, Kevlar helmets, spit cups, empty smokeless tobacco containers, and tired Soldiers doing 4-hour on and 4-hour off tours of duty. There is a constant flow of hot exhausted men coming in from patrol and flopping down directly on the floor, instantly asleep, the sweat on their soaking uniforms slowly drying into lacy white lines and salty splotches that mark the days since the last laundry trip.

Soldiers are sprawled in ungainly,

seemingly impossibly contorted, poses. They're in chairs, on couches and tables, even sleeping on top of a footlocker, arms and legs draped loosely over the edges. Sleep, or the desire for sleep, dominates the off-duty hours.

Soldiers are sleeping, waking up, putting on their equipment, checking their weapons, going and coming from guard duty, going out on patrol, coming back … sleeping again, getting up. They grab a quick meal from the green containers that appear mysteriously, two or three times a day, and then just as mysteriously disappear again, seemingly without a trace. This goes on all night. Sergeants, uncannily able to identify just the man they're looking for in an untidy row of identical forms, move quietly, waking them and giving orders amid a low murmur of voices and sounds that rises and falls, but never goes completely silent.

There is dirt, sweat, and exhaustion. There is also camaraderie, conversation, card games, trash-talk, tough kindness, and an incongruous gentleness in this rough world of men who have shared so much.

You can't escape the constant metallic clack and rattle of weapons being picked up, checked, loaded, unloaded, cleaned, reassembled, put down or moved. They're all there, machine guns, automatic rifles, grenade launchers, M4 carbines with futuristic laser aiming devices and optical sights. The ubiquitous American M16 and the equally distinctive AK47 of the Iraqi forces share the same crowded space, comrades in arms instead of enemies. There are black evil-looking shotguns with bandoleers of bright red plastic

ammunition. Automatic rifles and medium machine guns are stashed in the corners to keep them out of the way, with ammunition draped like Christmas tree garlands.

Along with the weapons, there are all the other impedimenta of modern warriors. The crustacean-like outer shells of the Soldiers' body armor look like the discarded carapaces of some bizarre green-mottled alien species. There are the lumpy, elongated Camelback drinking systems, each with a long tube drooping limply over the wearer's shoulder, providing life-sustaining water with just a slight head movement and a small suck, almost infantile in the satisfaction it gives.

Kevlar helmets, each with the last name, battle roster number and blood type of its owner embroidered on the light-brown camouflage band, lay around like strange upended clay pots. When they're laid upright on the ground, they look like the heads of monsters emerging slowly upward, out of the ground. Placed on top of a set of body armor leaned upright against the wall, they look exactly like a display of ancient Samurai armor in a museum. The similarity is striking.

It seems strange, to see such private information as a person's blood type publicly displayed. The medics need to know it, so the Soldiers put it on their helmet camouflage bands and ink it along the top of their boots. Having it there gives them a measure of comfort.

Everything … the weapons, the gear, the food, the floor, the couches, chairs and tables, is covered with dust. Dust impregnates the uniforms, the body armor, the hair, the mouth, and the skin of the Soldiers themselves. This is not your normal stateside

dust or even the infamous dust of the Fort Hood or Hohenfels tank trails. It is an insidious talc-like dusting that brings with it not only dirt, but the unique, unforgettable stench of Sadr City itself.

It's heavier than smoke, lighter than dirt, and has a taste and a sensation all its own that combines dirt with burning garbage, traffic exhaust, propane fumes, cooking smells, festering sewage, and animal dung.

Not all is discomfort here, however. Small pleasures become more vibrant, more pleasing, than they would be otherwise. A shave and a splash of cool water on the face feels wonderful! Simple food, spiced with hot sauce and a liberal helping of hunger, tastes better than a gourmet meal eaten without the same gusto. The bright, clean, clear taste of fresh hot coffee, not yet grown cold and bitter in its green plastic container, brings warmth that spreads and carries you back to other places, other mornings, other times.

Cool night breezes, much cooler than expected after the intense heat of the day, often make the sprawled bodies on the concrete floor stir and contract into warmer fetal positions amid their quiet dream-murmuring. At least one hopes they're dreams, and not nightmares. Never rising to full consciousness, the Soldiers enjoy the change nevertheless.

The ceiling fans, in the uncertain intervals when the electricity is on, are unexpectedly strong. They move air briskly around the room, cooling sweat-soaked uniforms with a delicious pleasure and clearing out the stuffy remains of the day.

It isn't just the young dirty-faced fighters that you see. There are battalion staff officers and others from the headquarters coming and going. There are Civil Affairs officers with laptop computers, Iraqi translators, tank mechanics in grease-stained coveralls and body armor, medics, a photographer from the Associated Press, Iraqi soldiers and police, even a free-lance reporter from Australia

In the District Council Center, Soldiers sprawl out in what little room is open.

who showed up unexpectedly in a black Mercedes that dropped him off at the front gate and sped away.

It isn't just the Army here either. There are two very young combat cameramen from the Navy, identifiable by the heavy black cameras dangling beside their M4 carbines and the 9mm pistols carried in holsters strapped low, gunfighter-style, on their hips.

One room is set aside for the Iraqi National Guard soldiers. A glimpse inside shows the same sprawled posture but with slightly different styles of uniforms. There are AK47s instead of M16s, but mostly the difference is the haze of cigarette smoke in the room.

The U.S. Soldiers smoke and dip when they get a moment to relax, but the Iraqis smoke constantly. The pungent smell of harsh Iraqi tobacco mingles with the more familiar U.S. smokes traded back and forth with the American Soldiers. The quiet murmur of dozens of individual conversations in a small space is just as unintelligible in Iraqi as it is in English.

The tired sergeant in the tactical operations center is doing crossword puzzles while he monitors a steady but disjointed stream of scratchy radio reports from the patrols that are out. It's the ultimate in multi-tasking, done while buzzing on a strong black-coffee caffeine jag that will block much-needed sleep for hours after his shift is over.

There's the young lieutenant, fresh out of Fort Benning, pulling his late-night shift as a "Battle Captain" in the operations center. He's briefing the newly-awakened and still red-eyed operations officer on the "quiet night" that is gradually coming to a close.

In the background, the sniper teams are changing over, quiet men who move smoothly, almost silently, up and down the stairs to the roof. They cradle their long black plastic gun cases and night vision devices carefully, protecting the precision tools of their craft. They're sleek, athletic, narrow-eyed, silent men…deadly as wolves.

The early morning light gradually reveals the litter of discarded plastic spoons, dried coffee spills on the folding tables, piles of plastic plates stuffed into plastic trash bags, flattened cardboard boxes in a corner, to be taken out to the trash pile later and burned, adding to the smoke haze that perpetually hangs over the city. On the table there are several leftover pastries from the evening meal…small, delicate, Iraqi-style sweet cakes that seem strangely out of place here.

There is the composure of the battalion command sergeant major, standing quietly in the doorway silhouetted in the dim early morning light, his uniform clean and neat despite the dirt and dust around him. He seems in deep thought.

Calm, deliberate, seemingly unaffected by the growing noise and activity around him, his gaze takes it all in. He sips a cup of coffee as the Muslim call to prayer echoes eerily off the surrounding buildings. The engine of a Bradley fighting vehicle comes abruptly to life with a coughing black fart of evil-looking smoke. The sergeant major finishes his coffee, turns and goes back into the operations center, calling for a sergeant to join him and bring the latest movement roster.

Another day has begun in Sadr City, another day that brings with it the misery and glory of the American Soldier at war in Iraq.

On a rotating basis, the combat elements of Task Force Lancer occupy a temporary position at the District Advisory Council (DAC) compound in downtown Sadr City.

Arthur A. Durante, Jr., is currently serving as deputy chief of Doctrine, Doctrine and Collective Training Division, Combined Arms and Tactics Directorate, U.S. Army Infantry School, Fort Benning, Georgia.

Standardized BCT METL:

CONSOLIDATING GAINS IN THE
OVERHAUL OF INITIAL ENTRY TRAINING

LIEUTENANT COLONEL JERRY CASHION
LIEUTENANT COLONEL JIM LARSEN

O ver the past year, Initial Entry Training (IET), specifically Basic Combat Training (BCT), has undergone the most significant change since World War II focused on producing Soldiers who can immediately contribute to their unit following advanced individual training (AIT) in an Army at war. Gone are the days of sterile phase testing — Soldiers standing in line with a score card neatly tucked into the camouflage band of their helmet, while at a field table with a camouflage net over top, waiting at parade rest to be tested on an individual task. Sliced are the hours of perfecting drill and ceremonies, and falling asleep in large, lecture-style classes taught by committee. In place of sterile phase testing has come judgment-based training in the form o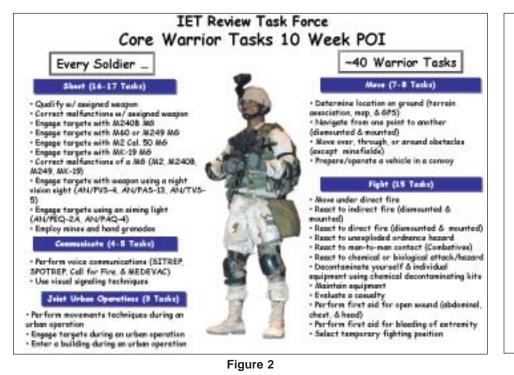f end-of-phase situational training exercises (STX), where Soldiers perform critical individual tasks under replicated combat conditions. Squad tactical movement, urban and convoy operations, have replaced many of the hours formerly devoted to marching. Small group, performance-oriented training, taught by a new breed of warrior-focused drill sergeants, characterize most of the instruction that was once taught by committee, or at the very least, in a classroom with a "platform" instructor addressing 220 students. Combat-focused courses are being constructed that force

Figure 1 - New BCT Training Methodology

teamwork to happen in such events as litter carry, water and ammunition resupply, and fighting position construction replacing the noncombat-related Teamwork Development Course (TDC).

At the core of this transformation is the new basic combat training methodology (Figure 1). As noted in the upper "individual" band, the Soldiers are trained in key individual tasks that are relevant to the current needs of our force. Instead of "sterile testing" at the end of each phase of training, the Soldiers' performance is validated during the execution of critical collective
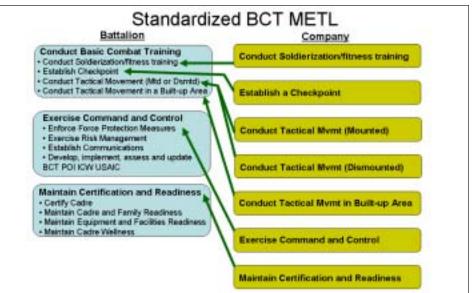
Figure 2

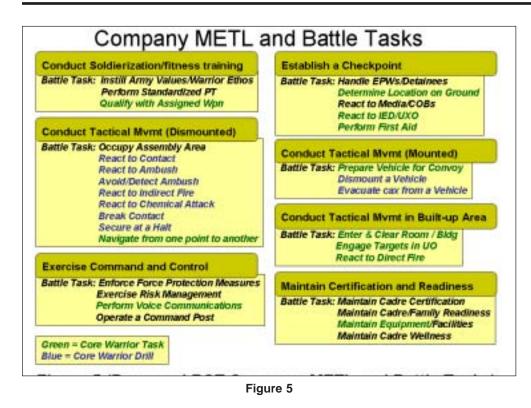### IET Review Task Force

Core Warrior Drills 10 Week POI

- React to contact (visual, IED, direct fires [includes RPG])
- React to ambush (blocked & unblocked)
- React to indirect fire
- React to chemical attack
- Break contact
- Dismount a vehicle
- Evacuate injured personnel from vehicle
- Secure at a halt
- Avoid ambush (Soldier as a sensor)

Figure 3

tasks in the form of STXs. Every effort is made to ensure these STXs are as realistic as possible — media, civilians, urban areas, improvised explosive devices (IEDs), and a healthy dose of ambiguity, information overload and/or deprivation, uncertainty, and unpredictability. Just as in combat, Soldiers don't know what's going to happen next, and the standard is ultimately measured by mission accomplishment within the commander's intent rather than if performance measures were accomplished in some specific order.

During the final five-day field training exercise (FTX) the Soldiers conduct an intensive squad external evaluation (EXEVAL) that challenges both the Soldiers and the drill sergeants in the execution of the Warrior Tasks and Drills. By the end of nine weeks, Soldiers have been exposed to many of the same situations that they will face in combat and will make tough decisions like they will have to make in combat, and for many, combat is just around the corner. The STXs and the final EXEVAL add focus to BCT and require the drill sergeants to develop their own training strategy to prepare themselves and their Soldiers for the events. Result — battle focused training throughout that improves both the Soldiers and the leaders.

The goal now is to preserve this methodology and consolidate the gains

made over the past year making BCT more realistic, relevant, and rigorous. This happens, in part, with the TRADOC-approved changes the Infantry School recently made to the BCT program of instruction (POI). However, having the resources is only part of this effort. The other critical part of is to ensure that BCT battalion and company METLs are battle-focused. "Conduct BCT" has far too long been the usual METL task briefed by nearly every BCT battalion and company commander. This task might work at the

battalion level, but it's not adequate to focus company commanders and their cadre. As FM 7-0, *Training the Force*, states, "Battle focus is equally applicable in TDA organizations" and mission essential tasks should include "critical training tasks." The critical training tasks in the new BCT are the foundation of the STXs: Establish a Checkpoint, Occupy an Assembly Area, Conduct Tactical Movement (Mounted and Dismounted); and Conduct Tactical Movement in an Urban Area. Moreover, accomplishment of these collective tasks

Figure 4

Figure 5

task proficiency of squads, platoons, companies and battalion. Focusing on the Soldiers'-in-training ability to accomplish these tasks would be something too perishable and the unit would be untrained at the beginning of every cycle. True BCT unit proficiency is measured by cadre proficiency to accomplish *and teach* the task. Therefore, focusing primarily on the cadre and measuring success based on cadre proficiency is the key to the assessment of this METL. Cadre proficiency is measured in performance of these collective tasks during the Squad EXEVAL and provides a real assessment of training rather than the statistics used in the past. Using this approach, commanders at all levels can ensure that cadre training during cycle breaks is battle-focused and targets key areas to improve training for the upcoming cycle.

enable execution of many of Task Force Soldier's recommended 40 Core Warrior Tasks and Nine Core Warrior Drills (Figures 2 and 3).

No matter which BCT battalion or company in our Army, all must accomplish the same functions to make the most out of the new BCT POI. For this reason, we are proposing that every BCT battalion and company in the Army adopt a standardized METL for those tasks that are common to all. At the battalion-level, the METL can be organized into three essential tasks: Conduct BCT, Exercise Command and Control, and Maintain Certification and Readiness. Each of the battalion's METL tasks have supporting battle tasks that logically feed into the company's METL (Figures 4 and 5). For example, the battalion METL task of Conduct BCT has supporting battle tasks of Establish a Checkpoint, Conduct Tactical Movement (Mounted and Dismounted), and Conduct Tactical Movement in a Built-up Area. The company's METL would then include tasks, such as Establish a Checkpoint, Conduct Tactical Movement (Dismounted), Conduct Tactical Movement (Mounted), and Conduct Tactical Movement in a Built-up Area. The company battle tasks then logically become critical collective and/or individual tasks on which drill sergeants can focus their effort. For instance, the company battle task of Establish a Checkpoint would have supporting battle tasks that include tasks such as Handle EPWs/Detainees, Determine Location on Ground, React to Media, Perform First Aid. The majority of these battle tasks, critical collective tasks, and critical individual tasks are, in fact, core warrior tasks and drills as identified by TF Soldier.

It is important to note how the assessment of this METL differs from an MTOE unit. The assessment of this METL is largely *cadre-focused*, as opposed to being focused on the METL

The warrior focus of an Army at war provided the necessary momentum to effect change within the approach to basic combat training. These changes result in cadre who remain challenged and continue their professional development throughout their time as a drill sergeant. Drill sergeants from all MOSs continue to develop their warrior skills while simultaneously improving as trainers. The end product is Soldiers better prepared for combat and leaders better prepared for follow-on assignments after their time on the "trail." Our challenge is to consolidate these gains for our predecessors to ensure this warrior focus is not lost in the normal personnel turbulence of our organizations. The best way to accomplish this is through the use of this battle-focused METL across BCT. It provides flexibility for our changing environment, focuses our company commanders and drill sergeants, and capitalizes on the gains achieved through the new BCT training methodology. Finally, adopting this standardized METL enables commanders to more rapidly adjust their battle tasks, critical collective tasks, and individual tasks as we incorporate lessons learned from OIF and OEF to defeat an ever changing enemy.

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THE WARRIOR CHALLENGE

A Catalyst for Changing the Culture of BCT

LIEUTENANT COLONEL JERRY CASHION

Basic Combat Training (BCT) has undergone an entire transformation over the past year to produce Soldiers better prepared for an Army at war. Many initiatives fueled this fire of change, but none bear the significance equal to the Warrior Challenge. The Warrior Challenge in its simplest form is a set of externally evaluated STX lanes designed to challenge both the drill sergeants and Soldiers in the conduct of squad-level tactical missions while demonstrating the application of individual skills learned during BCT. The original intent of the Warrior Challenge was to force the development of our noncombat arms MOS drill sergeants; however, the end product proved to be much greater. Because of this impact, the Warrior Challenge has been added to the new BCT program of instruction (POI). This article addresses the "how to" of the Warrior Challenge and some of the results identified after a year of continuous execution of the program.

The Warrior Challenge as stated earlier is a set of externally evaluated STX lanes. Each BCT squad competes against an established standard during the conduct of tactical missions. Key to the success of the program, the drill sergeants act as squad leaders and are evaluated on their performance during the conduct of the missions. Each squad earns points based on their performance and competes for the Warrior Challenge Streamer. Additionally, the top scoring drill sergeant squad leader earns the Warrior Ethos award and trophy. Currently, the missions in the Warrior Challenge include movement to contact, convoy resupply, and rescue an ambushed convoy. These missions and associated tasks are derived from the current
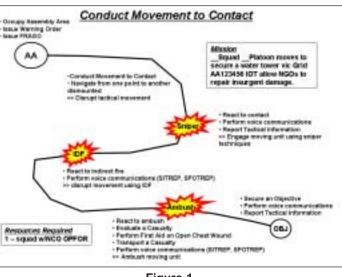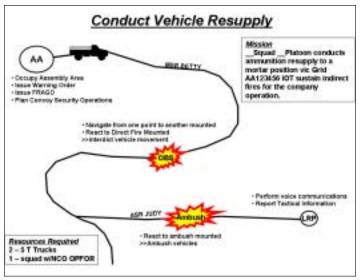

Figure 1

operations in Iraq and Afghanistan and supported by the 40 Core Warrior Tasks and nine Warrior Drills as defined by Task Force Soldier.

For the movement to contact mission, the squad is given a scenario where small insurgent elements are attempting to destroy local infrastructure like water sources and roads/bridges. Specifically, the squad's mission is to secure a key water source to allow non-governmental organizations (NGOs) to repair damage caused by the insurgent forces. They are further tasked to destroy any insurgent forces they encounter during their mission. Under the leadership of the drill sergeant squad leader, the squad plans and conducts rehearsals for the mission in a semi-secure assembly area. As the squad begins movement to their objective, they encounter a sniper, indirect fire, and an ambush. In each case, the squad is evaluated on their performance of the appropriate battle drill, their reporting procedures (SALUTE, SITREP, SPOTREP), and their ability to continue the mission. While the lane is well structured, there is a great deal of "free play" between the friendly and enemy forces. The enemy is issued a mission to conduct a

baited ambush and conducts this mission under the supervision of a drill sergeant as well. In many cases, the friendly unit detects the ambush and seizes the initiative from the enemy – likewise the enemy may totally overwhelm the friendly unit. In either case, the observer controller (OC) observes the contact and assesses the casualties accordingly. During the course of the mission, the squad has multiple opportunities to treat and evacuate both friendly and enemy casualties based on the adjudication of the contact. Once their objective is secured and the casualties are treated and evacuated, the squad receives a change of mission and conducts an after action review (AAR) led by the observer controller. Upon the completion of the AAR, the observer controller issues the squad leader the next mission.

The next mission requires the squad to conduct vehicle movement to resupply a unit not in contact. The insurgents continue to operate in the area conducting small ambushes to interdict movement along key road networks. As in the previous mission, the squad conducts planning and rehearsals in the assembly area. During the conduct of the mission, the squad encounters a far ambush and a blocked ambush. In each case, the squad is evaluated on their performance of the appropriate battle drill and their reporting procedures. "Free play" applies in this lane as well, and the OC assesses casualties to further develop the squad in both first aid tasks and casualty evacuation. As before, the OC leads the squad through an AAR, then issues a fragmentary order (FRAGO) for the final mission.

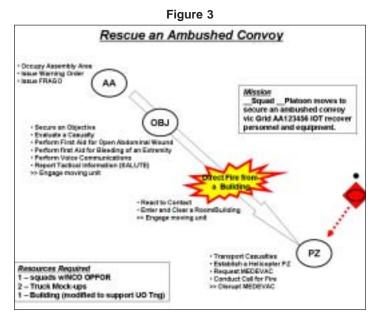The third and final mission requires the

Figure 2

squad to rescue an ambushed convoy. The insurgents continue to interdict vehicle movement with IEDs and small ambushes. A two-vehicle convoy is ambushed on its way back from conducting a mission. The squad must secure the vehicles and treat and evacuate the casualties. While the squad conducts this portion of the mission, they receive fire from a couple of insurgents who break contact and draw them into a nearby building. The squad enters and clears multiple rooms within the building in an effort to identify and kill or capture the insurgents. As the squad clears the rooms in the building, they are presented multiple targets that range from small children to women to hostile men and women. In each case, the Soldiers are evaluated on room clearing and shoot/don't shoot responses. Once the building is cleared the squad completes the original mission, establishes a helicopter PZ, and calls for a MEDEVAC. As in the other scenarios, the squad is evaluated on their performance of the tasks and drills required to successfully complete the mission.

Understanding the extent of the missions in the Warrior Challenge, one may wonder how this can be possible in BCT. How can we expect our noncombat arms drill sergeants to lead their squads in these "infantry" tasks? How do we prepare Soldiers to perform these tasks in the short eight weeks provided? How do we execute this STX training on the shoestring resources we have in personnel and equipment? Is it really an evaluation and what are we truly assessing? What results can I expect? The remainder of this article addresses each of these questions and explains how a battalion has conquered these challenges with internal resources.

How can we expect our noncombat arms drill sergeants to lead their squads in these "infantry" tasks? First, these are no longer just "infantry" tasks. The contemporary operating environment (COE) presents challenges like these throughout the entire area of operation. The results in OEF and OIF have highlighted the requirement for all Soldiers and leaders to master these skills, regardless of their MOS. The Army most recently codified the "warrior first" intent in the warrior tasks and drills which are the foundation for the missions within the Warrior Challenge. Second, how can we *not* expect our drill sergeants to lead their squads in these tasks? All of our drill sergeants were great NCOs before

arriving at BCT and can perform the leader tasks required to lead a squad through these missions. They do need training to practice, rehearse and refine their leader and tactical skills to give them the confidence necessary to train and lead their Soldiers. In order to address this area, we developed a two-pronged approach: leader training and peer training. We assembled the drill sergeants, company commanders, and first sergeants and executed leader training on each aspect of the Warrior Challenge. Some of these training events were conducted with ad hoc squads made of leaders actually executing the missions. Some of this training was conducted as NCOPD focused on specific tactics, techniques and procedures (TTPs) like room clearing. In each case, leaders were trained on the performance of the missions and provided TTPs to prepare their Soldiers to execute the supporting tasks. Peer training occurred back at the companies. One or two subject matter experts (SMEs) within the company would continue the leader training process in preparation for upcoming cycles. Each time a company conducted the Warrior Challenge, the drill sergeants shared TTPs and developed strategies to prepare themselves and their Soldiers for the next Warrior Challenge. This basically developed into an "upward spiral" whereby the training, as well as the leader and Soldier performance, improved with each execution of the Warrior Challenge.

How do we prepare Soldiers to perform these tasks in the short eight weeks provided? The key here is focus. The focus of BCT used to be on sterile phase testing. Now the focus is on performing well during the Warrior Challenge. In order to perform well during the Warrior Challenge, a Soldier has to understand both *how* and *when* to perform a task. The how for a task occurs during instruction in pretty much in the same manner as always – task, condition, and standard. The trick of capturing when to perform the task occurs during a more focused Drill Sergeant's Time. Because of the added focus of the Warrior Challenge, drill sergeants use every opportunity to train their Soldiers in the performance of fire team and squad drills while reinforcing the tasks traditionally taught during BCT. Every opportunity during the day is used to train/reinforce some task – whether it is tactical movement to or from

Figure 3

training or a battle drill during PT cool down. Each time the drill sergeants execute Warrior Challenge, they develop a more comprehensive strategy to train their Soldiers for the next one, and again training improves.

How do we execute this STX training on the shoestring resources we have in time, personnel and equipment? Every installation will vary slightly on available resources. However, with careful planning and command emphasis, the STXs can be executed with resources internal to the battalion. Each BCT company has enough transportation assets to support the Convoy Resupply lane. We use an existing building and static vehicles to support the Rescue an Ambushed Convoy lane. Temporary rooms can be made of pickets and target cloth as an alternate and almost any vehicle can be substituted for the objective on the lane as well. There is enough pyrotechnics and blank ammunition in the current FTX to support all three lanes. To ensure we have enough drill sergeants to have one for each squad, we execute with eight squads each day. Some drill sergeants lead a squad through both days; however, no drill sergeant leads more than two squads during the course of the training. With only eight squads executing each day, we have the remaining eight squads with drill sergeant supervision available for OPFOR support. Time and OCs go hand-in-hand as the biggest challenge. In order to gain the most efficient use of time, we use two OCs on each lane. One OC is moving with a squad, while the other OC is simultaneously observing planning and rehearsals in the assembly area with another squad. Using this method, it takes approximately 12 hours to execute eight squads each day. A typical FTX timeline is: Day 1, deploy to field and prepare; Day 2 and 3, conduct Warrior Challenge (8 squads each day); Day 4, continue Warrior Challenge as necessary and conduct retraining; Day 5, redeploy. It is important to note Day 4 remains available for back up in the event of bad weather or other distracters that postpone or delay the training on Day 2 or 3. It is also used for retraining squads that fail to meet the standard. To place the proper emphasis and aid in assessment, the OCs are the battalion commander, the command sergeant major, and the Company Commanders. We currently use all four company commanders across the battalion to run each Warrior Challenge. Each company commander gets an opportunity to evaluate 32 squads each quarter as well as an opportunity to observe training and SOPs of his sister companies. The value added here is self evident, and as in many areas throughout the program, contributes to improved training throughout the battalion.

Is it really an evaluation, and what are we truly assessing? Let there be no doubt – this is an evaluation. Both the drill sergeants and the Soldiers are being evaluated on individual, collective and leader tasks throughout the training. In the assembly areas, Soldiers are evaluated on individual weapon proficiency with the M16A2 and the M249 SAW, use of the Claymore and AT-4, map reading, and maintenance of their individual weapons and equipment. During the time in the assembly area, the drill sergeant and squad are graded on occupation and local security, planning, FRAGOs, and rehearsals. During the execution of each mission, the squad is evaluated on the performance of numerous tasks and drills. In many cases, these tasks and drills are redundant across all three missions, and the squad improves through the execution and AAR of each lane. All of the evaluations are based on task/condition/standard and performance measures from the most current doctrine rolled into training and evaluation outlines (T&EOs).

The squad is scored based on how well they perform these tasks as outlined in the T&EOs and platoon and company streamers are awarded for those who meet or exceed the established standard. The highest scoring drill sergeant is also recognized with the Warrior Ethos Award presented by the battalion commander at graduation. While these are the positive awards that come from the evaluation, the true assessment is in the training and the trainers. Commanders at company and battalion along with the battalion CSM see every drill sergeant and a cross section of every platoon in each company. The key leaders gain an extremely accurate assessment for the level of training proficiency of both the Soldiers and the drill sergeants. This is a much more effective tool for developing training than the traditional statistics used in years past. Based on our assessments over the past year, we have been able to refine our leader training and identify drill sergeants that require additional training in programs like the Combat Leader's Course (CLC) at Fort Benning.

What results can I expect? The upward spiral effect on improving training throughout BCT seems endless. This is attributed primarily to continued professional growth of the drill sergeants. As highlighted earlier, the drill sergeants continue to assess their own abilities and develop strategies to improve themselves and their Soldiers in the upcoming cycle. The noncombat arms drill sergeants had the steepest learning curve; however, they have improved the most. Three of the last five top performing drill sergeants had combat support and combat service support backgrounds. All of the company commanders in the battalion have OC'd at least 32 squad STXs in the last 60 days. The positive impact this has on their professional development, as well as training within their organizations, is incredible. The most important result is the impact on the individual Soldier. Soldiers now receive realistic, relevant training that prepares them for scenarios they will soon face in combat. Each cycle, this training gets better based on the continued improvement of leaders at all levels, and the Soldiers leave basic training confident and proficient in the application of their warrior tasks and drills.

The original intent of the Warrior Challenge was to force the development or our noncombat arms drill sergeants; however the end product proved to be much greater. The program provides a vehicle whereby the Soldiers are trained and the leaders at all levels are developed. It provides focus for our training and challenges drill sergeants to continue to develop professionally while on the trail. Because of these results, the Warrior Challenge has been added to the new BCT POI. Most importantly, the Warrior Challenge is the catalyst for change in the BCT culture and fosters the best conditions to train our Soldiers and leaders for an Army at War.

Lieutenant Colonel Jerry Cashion is currently serving as the commander of 2nd Battalion, 46th Infantry (Basic Combat Training) at Fort Knox, Kentucky. He is a 1986 ROTC graduate who has served in a variety of air assault and light infantry assignments. He is a veteran of Operation Desert Storm.

BOOK REVIEWS

***Dawn of D-Day: These Men Were There, 6 June 1944.* By David Howarth. Stackpole Books, 1959 (rpt 2004). 255 pages, $19.95.** Reviewed by Command Sergeant Major James Clifford.

Dawn of D-Day tells the story of the allied invasion of Europe at the Soldier level. This is an easy read that gives one a sense of what it was like to be a Soldier jumping out of an airplane in the dead of night, crashing to the ground in a glider, or splashing ashore at dawn. Originally published in 1959 by war correspondent turned author David Howarth, it is reprinted as a Greenhill Military Paperback on the 60th anniversary of the invasion. A short introduction by the author's son puts the book into perspective.

The author covers all the major stories of D-Day from the airborne drops to the amphibious assaults. His descriptions of the confusion, fear, heroism, brings the reader into that action like a fine work of fiction. His individual portrayals bring the characters to life as if they are our own family, friends, and neighbors. Even some fairly sympathetic stories of German soldiers are told here. He intertwines the preparation in England, the trip over the Channel, and the invasion itself in an entertaining style that focuses on Soldiers rather than senior leaders. Only a few generals make it briefly into the narrative and those are fighting generals like Gavin, Ridgeway, and Roosevelt. All others, including Eisenhower, Bradley, and Montgomery are only mentioned in passing.

The strength of this book is in its understated nature. Students of military history are used to lengthy studies with copious notes, a lengthy bibliography, and an index. *Dawn of D-Day* has none of those. Rather than this being a weakness, their absence frees the reader to just follow and enjoy the stories. It is a book that one can read at leisure rather than feeling like

it is a chore as some other works of military history can become. Anyone with some basic knowledge of the period will enjoy the book. It is just a well-written story that has stood the test of time. The passage of 45 years since it was published has not dimmed the brilliance of this book one bit. It is just as good today as it was when originally written.

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***Storm of Steel: The Development of Armor Doctrine in Germany and the Soviet Union, 1919-1939.* By Mary R. Habeck. Cornell University Press, 2003, 309 pages, $35.** Reviewed by Randy Talbot, Staff Historian, USATACOM

Every once in a while, a new work comes along that sustains our belief that the hours of research, writing, and frustration military historians go through has relevance; not only in adding to the historiography of our chosen subject, but also direct relevance to contemporary military thought. *Storm of Steel* is one such work.

The major themes of *Storm of Steel*; incorporating developing military technology into operational war planning, developing military doctrine to face current military challenges, transforming force structures to face offensive threats, transforming change in strategic, operational and tactical thought to incorporate developing technology into war planning, are as poignant today as they were in the interwar period. A careful reading of this work, and the debates formulated following World War I, are as similar as the debates current military organizations and their political leadership face today as they transform from a cold war military to one that is more focused on a light, maneuverable and lethal force steeped in technological advancements to face the wars of the future.

Although fascination with *blitzkrieg* has produced numerous volumes chronicling the

development of German armored doctrine, little literature has surfaced to chronicle Soviet "deep battle" doctrine, and none has compared, contrasted and chronicled the development of both armored doctrines.

Habeck details three distinct periods of armored development; the first period (1919-1926) ended with the introduction of the lighter, faster Vickers tank. A far cry from the slow behemoths that broke down on western front, the speed of the Vickers meant that the next war would be fast paced and mobile, not stagnated in trench warfare. The Vickers became the impetus for the serious development of armored forces, mechanized units and developing armored doctrine. The second period in the continuum (1926-1934) centered on military collaboration between Germany and the Soviet military and a void of rethinking armored doctrine as both countries tried to incorporate the technological advancements of the faster tanks. The final period (1933-1939) was the simultaneous adoption by the Soviets of deep battle doctrine and Hitler's seizure of power in 1933. Within a few years, Germany and the Soviet Union were at war with each other, testing out their armored doctrine in the bloodiest battles of World War II.

Well-researched and exhaustively chronicled from formerly unavailable secret and top-secret post-Soviet archive sources recently available, Mary Habeck details both military establishments internal debates and external challenges in developing an armored doctrine during the inter war period. Similar to the debates raging in Britain and France regarding the employment of armored forces — tactics, formations, combined arms cooperation and force structure — these debates not only had a profound effect on Germany and the Soviet Union, but British armored doctrine would be the genesis of their tactical and doctrinal writings of the period after 1926.

The basis for these debates was the changing nature of warfare that the tank, airplane and other technological advances ushered in during World War I. Central to the debates on force modernization and military transformation centered on "new thinking" regarding the nature and future of modern warfare and how best to face this impending threat. The radical improvement in tank technology forced a reassessment of traditional, aristocratic views on warfare, and previously held negative beliefs regarding machine warfare. At the core of this reassessment is the argument of morale versus materiel that directly impacted the use of armor, infantry, cavalry and artillery formations, their place on the future battlefield, and incorporating their tactics into combined arms warfare that would guide armor development and doctrine in both countries. Finally, the contributions of people like Marshal Tuchachevskii, Vladimir Triandafillov, and Georgi Zhukov in the Soviet Union, and Hans von Seeckt, Joachim von Stülpnagel, and Heinz Guderian in Germany were only influential as long as they had the support of the political leadership of the country.

While the military establishment debated the "theoretical" versus the "practical," other factors contributed to both limit and shape doctrine development. Germany faced strong external pressures resulting from the Versailles treaty that prohibited all development of technological weaponry. Germany's economy during the war had stretched industrialized productivity to its limits leaving its economy in a shambles. Additionally, political instability in the Weimar period would continue to hamper armor development until Hitler's seizure of power.

The Soviet Union, on the other hand, not bound by Versailles, faced a civil war and the establishment of the Bolsheviks as the leading political force in the country. Fighting a civil war and allied intervention — with captured machines that gave Russia its first tanks— the Soviets then embarked in another war against Poland. This internal political struggle would put industrialization and the development of a military-industrial complex on hold until the middle of the 1920s. Through each five-year plan developed by the Soviet leadership, industrial mobilization failed to meet not only grandiose projections of the military, but fell far short of fulfilling basic military requirements in tank production until late in the 1930s.

While the debates regarding the use and structure of forces would continue, and the focus of the debate would change during the inter war period, certain characteristics would continue to be the crux of military thought. For the Germans, it was the primacy of the infantry as the main force in battle, which had to cooperate with other branches of the military incorporating "stormtroop" tactics developed in World War I. Finally, mission tactics or *Austragstaktik*, — empowering local commanders to employ tactics as he saw fit — was essential to any doctrine. The Soviets focused their doctrine on offensive capabilities, striking at the strongest point of the enemy front and searching for a proletarian method of warfare that would incorporate ideological concepts.

Storm of Steel is a comprehensive, comparative study and analysis detailing simultaneous and similar armored doctrine development in both Germany and the Soviet Union following World War I. The arguments and debates, centered on transforming a military and doctrine, are as relevant today as they were 80 years ago and are repeated in the hallowed halls of military war planners.

The Battle of Mogadishu: Firsthand Accounts From the Men of Task Force Ranger. Edited by Matt Eversmann and Dan Schilling. New York: Ballantine Books, a Presidio Press Book, 2004. 221 pages, $25.95. Reviewed by Lieutenant Commander Youssef Aboul-Enein, USN.

It has been over a decade since U.S. forces have intervened in Somalia and yet books on Operation Restore Hope are timely and filled with the needed combat wisdom for the current war on terrorism. Little did Task Force Ranger know, but they would be in the midst of the earliest opening shots of a new asymmetric war. Osama Bin Laden trained Somalis in his camps in Sudan on the techniques learned fighting the Soviets in Afghanistan. Among the skills learned by fighters loyal to Mohammed Farah Aideed were methods to bring down a Soviet Hind Helicopter. These Soviet-Afghan war tactics would be employed to bring down to the U.S. Army Black Hawk helicopters in Somalia.

Six Soldiers tell their story and treat readers to the sights, smells and urban tactics of the Battle of Mogadishu. The book begins with Matt Eversmann discussing Operation Gothic Serpent. Eversmann was with the first group of Rangers to fast rope from Black Hawk helicopters into Mogadishu October 3, 1993. As chalk leader, he was the last to descend and saw one of his Soldiers laying crumpled on the ground. Eversmann describes how he and his Soldiers evacuated the wounded Soldier while Somalis attacked, which made the task of stretcher bearing exponentially more difficult. The chapter is a valuable lesson in the emotions and adrenaline of urban battle.

Sergeant Raleigh Cash writes about the rescue convoy of Task Force Ranger. He would be the primary forward observer in an eight-vehicle convoy charged with rescuing the Americans who went down in the Black Hawk. They could hear the radio transmission as the Black Hawks were downed and he writes of how he and his group grabbed extra IV bags, ammo and ammo pouches full of flash grenades, as well as the Remington 870 sawed-off shot gun rounds to breach doors. Readers will learn how Somalis organized urban fighting and managed the chaos with the objective of slowing down the American convoy just enough to direct rocket-propelled grenade shots. Somali scouts would inform a guerilla force ahead of the convoy, which would set up makeshift roadblocks of tires and other materials to block the route.

The first attempt to reach the trapped American force failed with Cash describing the casualties his convoy took. After returning to base, they hosed down the HMMWVs, restocked, and returned with a Malaysian force of armored personnel carriers and a Pakistani peacekeeping force who brought tanks with them. The second attempt would see ferocious fighting but would be successful in breaking the siege the Somalis had achieved against Task Force Ranger.

The book continues with chapters by Mike Kurth and John Belman, who is critical of the use of Black Hawks to provide sniper cover. Tim Wilkinson, a pararescuer, contributes a chapter about conserving life under intense Somali fire. The final chapter was submitted by Dan Schilling, who made several forays into Mogadishu to rescue two of his closest friends and literally be the "Last Out" of Somalia.

This is an excellent book that is gritty and may provide insight for those participating in Operation Iraqi Freedom or Operation Enduring Freedom.

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UNIT DISTRIBUTION LIST

After experiencing mailing problems with our unit distribution list last fiscal year, we are finally getting back on track with mailing to units. At this time, we are limiting free copies of *Infantry* Magazine to infantry and infantry-related units to include active duty, Reserve and National Guard units as well as to our sister services. We presently send 3 copies to each company, battalion, brigade, and division headquarters for the command group.

Currently, some magazines are being returned due to incorrect mailing addresses or unit designations. If you would like to add your unit to our distribution list or need to change the address or designation of your unit, please let us know via mail, e-mail, or telephone. (See contact information to the left.) Please provide a complete unit name and address along with a duty phone number.

Sergeant Jeremiah Johnson

Soldiers with the 1st Battalion, 5th Infantry Regiment, 1st Brigade, 25th Infantry Division (Stryker Brigade Combat Team) clear and search homes during operations in Avgani, Iraq, December 4, 2004.