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Features

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On the back cover: Office of War Information poster, 1943; artist, Bernard Perlin.

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LETTERS

FOCUS, PLEASE!

Dear *ARMOR*,

Major Joshua Keena's Letter to the Editor (*ARMOR*, May-June 2009) in response to my letter (March-April 2009) concerning his article written with Captain Jonathan A. Bodenhamer, "Reforging the Thunderbolt: How Railguns Can Revolutionize the Weapons of War" (January-February 2009), significantly restated the original article's content. I am not offended by his presumption of "…several points of confusion that arose in [LTC (Retired)] Kojro's response…" as it is clear to me that we are writing past each other. I would have ignored the matter, except that Major General Campbell, in his final "Commander's Hatch" endorsed the need to "…continue to promote new 'game-changing' technology, such as the electro-magnetic gun." Hence, a clarification is required.

Major Keena's letter disagrees with my "...assessment that there has been little progress during the 30 years of active military research on this technology," and then provides various science and technology advances.

Sorry, but that misses the intent of my letter. Of course, there has been progress in science and technology and we are, by definition, 30 years closer to achieving whatever. My assessment concerns the development and fielding of a practical railgun-armed tank. It was the original article, under the subhead of "Game Changing Technology" that considered the Abrams and Bradley, and then suggested a railgun in the contemporary operating environment.

Major Keena's letter quotes solutions to two of three railgun problems; unfortunately, since the unsolved one is "pulsed power supplies," two out of three doesn't give us much. Major Keena also claims "progress" because the U.S. Navy recently declared a fieldable railgun will arrive in its fleet in 15 years, while a ground-based Army system needs a longer lead (years unspecified).

I have my historical reasons to doubt these estimates, but conceding for polite argument, let's put these numbers in perspective. We could have an initial fieldable artillery-type system some time after the Navy system, perhaps 20 to 25 years. But a tank-like system; when? Perhaps 30 or 40 years? Every tanker alive today will be long retired before such a system is fielded. The warriors to crew such a system have not yet been born; more to the point, many of their parents have not yet been born.

At my original letter's closing, I suggested that the emphasis on hyper-velocity is misguided. I'll expand for clarity: any emphasis *today* on fielding a tank-like system is a complete waste. The reason the Navy might field a railgun first is because they have this big thing called a ship's hull with a large power generating source that can power and handle the machinery involved while cruising about. Field artillery might develop a railgun system since the firing battery can accommodate large self-propelled auxiliary vehicles (power generators and such) that can lumber about and then collocate with the guns during firing. Likewise, air defense artillery might field something feasible for fixed site and area coverage. But the armored tank is absolutely the toughest environment for technical fielding due to limitations on size and ruggedness. Armor, as the proponent for the armor and cavalry soldier, up to battalion and brigade levels, has no business wasting its time on this technology.

CHESTER A. KOJRO
LTC, U.S. Army (Retired)

From the Past: Twenty-Five Years Ago in "Letters"

Carrying Out Orders

Ed. Note: The following letter to Major General Frederick Brown [then commanding general, U.S. Army Armor Center] from General Bruce C. Clarke, USA (Ret) and his "bit of history" were printed in the July-August 1984 letters to the editor "for the edification of all armor leaders." The letter follows, then the main subject matter.

Dear Rick: I used this bit of history at AWC, Naval War College, Command/Staff College of USMC and at Benning, Belvoir, and Knox. It was the most important thing I learned at Command and Staff College. It carried me through a dozen commands in two wars and in peace in between. It brought me seven promotions. I'd like to see every armor commander with General McNair's concept. It is particularly applicable to mission-type orders and armor operations…

BRUCE CLARKE

In 1939-40, I was a student at the Command and General Staff School. Our commandant was Brigadier General Leslie J. McNair. I felt that the best parts of the course were the times that General McNair talked to us from the stage on the basic factors of command.

One of these gems of wisdom was: "When you get an order, you must interpret it. Do so by doing your best to help your commander carry out his mission."

When I graduated on 1 February 1940, I was assigned to the 7th Mechanized Brigade at Fort Knox to organize the 4th Engineer Troop (Mechanized) and to be Brigadier General Adna R. Chaffee's brigade engineer. Soon, I received two engineer lieutenants and 91 soldiers for my troop.

In April, the 7th Mechanized Brigade and the 1st Infantry Tank Brigade from Fort Benning were ordered to Louisiana to maneuver against each other; to determine whether an armored force should be established.

We arrived in the maneuver area, and on Friday of the first week of April, General Chaffee sent for me. He handed me an assembled map of the maneuver area and told me to bring it back by Monday noon, and indicate on it all bridges, culverts, and other things that would prevent movement of his brigade over the roads in the area. He pointed out how serious it would be if one of his columns ran into a roadblock on the narrow roads.

On my way back to my troop, I gave thought to how to carry out my orders; and I also reflected on General McNair's advice to interpret orders in such a way as to best help your commander carry out his mission. I then stopped at the 1st Cavalry Regiment and talked to Colonel Henry Baird. I requested that he assign to me three tanks with crews, rations, and gasoline for 3 days. He sent them to my troop at once.

I assembled my two lieutenants, divided the troop into three parts of 30 men each, and further equipped them with bridge and culvert materials, as well as a supply of rations and gasoline. I then assigned one-third of the maneuver area to each of my platoon leaders while I took the remaining third. I gave each a tank and a gasoline truck.

I instructed my platoon leaders to be back by noon Monday, after driving their tank over all the roads in their areas and fixing any bridges and culverts needed to support a tank column. This was done in all three parts of the maneuver area. I took the map, with no marks on it, to General Chaffee. He said that I could not have understood what he wanted me to do. I told him what I had done and that his tanks could use any road in the area unless the "enemy" prevented it.

He broke down and shed a few tears. He said, "Clarke, we are going to win!" This he did, and on 1 July 1940, General George Marshall, the Army Chief of Staff, created "The Armored Force," with General Chaffee as its chief, and activated the 1st and 2d Armored Divisions.

I became acting armored force engineer, commanding officer, 16th Armored Engineer Battalion, 1st Armored Division and its division engineer. Soon, senior engineer officers were sent in to take my jobs, but not until I had served on the board appointed by General Chaffee to come up with the first TO&E of an armored division. In his guidance to us, he directed that the armored division be: "A balanced team of combat arms and services… of equal importance and equal prestige."

This concept made the armored force great! It is regrettable that General Chaffee did not live long enough to see his armored force perform in battle. If he had, I believe he would have been very proud of what he had accomplished for our Army.

BRUCE C. CLARKE
General, USA (Ret.)

COMMANDER'S HATCH

Maintaining the Screen Line

by COL David A. Teeples, Commander, U.S. Army Armor Center

One of a cavalryman's most basic missions is to screen the main force to provide early warning and protection from the unknown. Whether on the battlefield or functioning as part of the training base, the traditional cavalry mission has not changed.

The U.S. Army Armor Center has been asked to maintain a screen line for the armor force as its leadership transitions from Major General Campbell to myself, and ultimately, on to Major General Milano, during a very compressed timeline this summer. In addition to changes in its leadership, the Armor Center is working several key topics and events, such as the upcoming Force Design Update (FDU), relocating to the Maneuver Center of Excellence (MCOE), Base Realignment and Closure (BRAC) actions, and developing the Army Reconnaissance Course, which will have significant far-reaching effects on the shape of the armor force. These actions are short-term priorities; however, they are by no means the only rocks in our saddle bags as we continue with the day-to-day business of training our finest cavalry and armor soldiers, NCOs, and officers, and supporting them with the most relevant doctrinal tools and capable combat systems.

As many of you are aware, the Army is in the process of relooking its basic combat formation — the Brigade Combat Team (BCT). The FDU intends to use lessons learned from the past several years of practical application in combat to balance the force in terms of manning and capabilities, as well as project our needs in the coming years as we focus on the emerging hybrid threat model. There are several areas to be addressed during this process, which include adding dedicated intelligence support teams to maneuver troops, and rightsizing the battalion and BCT staffs to avoid information logjams. Simultaneously, we plan to harvest enough slots to support additional BCTs as we continue to generate units to the objective of 45 BCTs in the force pool.

The Army is also examining how many of each type of BCT will be required for the future force, which could require transforming some of our heavy brigades into Stryker brigades. The Armor Center is also deeply involved with parallel efforts to develop the new Ground Combat Vehicle (GCV), programmed for fielding in 2015, which could drive the composition of our combat formations. Therefore, the Army is considering its approach to the structure of the Armored Cavalry Regiment and the Battlefield Surveillance Brigades (BfSBs) and the way ahead for these organizations. Our position on the "screen line" is to ensure we are accurately representing the capabilities, requirements, and importance of our troopers, as well as our cavalry and heavy formations during the redesign process to maximize our effectiveness in the current and future fight.

As you look across the screen line, you'll see our next position is anchored by the efforts of the Strategic Planning Cell (SPC), as they engage the complex challenge of BRAC and transformation to the MCOE. We are on a glide path to begin receiving and integrating functions and organizations that will move to Fort Knox, while simultaneously preparing at the unit level for the Armor School's move to Fort Benning. Our garrison team is continually working to refine the facility and housing plan to account for the surge of requirements that will occur in the upcoming year. Our training commands have begun the process of transforming their organizations and updating their course content to support the physical move and the new environment at Fort Benning. We are planning several important rock drills and key leader meetings during the summer with Fort Benning and the Human Resources Command, as the Armor School and the Infantry School work in concert to begin the merger of two historic organizations under the MCOE. The structure of the MCOE is beginning to take form and it is critical that we continue the move forward with our infantry partners over the next few months to stay on track.

As any good scout knows, he must constantly be ready for change and ready to capitalize on any opportunity presented. Over the past few years, the change in our force structure, from an armored force with a cavalry component to a cavalry force with an armored component, is seen not only in our combat formations, but in Army Training and Doctrine Command (TRADOC) as well. One example is the Armor School's new Army Reconnaissance Course (ARC), which is designed to prepare officers and NCOs to perform as agile and adaptive leaders in recon platoons in today's modular force. The course, in its third pilot session, has maximized the implementation of an outcome-based training methodology to move away from teaching just tasks to leader skills and mindsets of adaptation and creativity for the entire course, the first in TRADOC. Fort Knox is not only screening, but also reconning a new way forward for TRADOC with Outcome-Based Training and Education (OBTE). The armor community is the proponent for reconnaissance doctrine and training and is doing its best to stay in front of the force with this new course, which has stretched the envelope for the old Scout Leader Course and will absorb many of the tasks currently taught in the Reconnaissance and Surveillance Leaders Course (RSLC) at Fort Benning, all to ensure we are matching the required skill sets for Recon Squadron leaders in all the BCTs (Heavy/Stryker/Infantry) and BfSB formations.

The Armor Center has several irons in the fire, which have potential impact on the branch and the Army as a whole. Our work with TRADOC on relooking the design and force structure of the different types of BCTs will help bring our Army into balance and enable it to succeed in any band of the spectrum of military operations. The ongoing efforts of BRAC and transformation to the MCOE will be felt for generations of warriors in our Army and will only serve to produce a fighting force of greater efficiency and skill in the long run. We continue the number 1 priority of serving our warfighters as we work to keep our instruction current and relevant to their required critical skills. In short, we are covering a lot of ground in a small window of time and we know you are relying on us to hold the line for the Armor Branch — I assure you we are steadily holding and maintaining the screen line.

FORGE THE THUNDERBOLT !

DRIVER'S SEAT

CSM John Wayne Troxell
Command Sergeant Major
U.S. Army Armor Center

Shoulder to Shoulder: No Soldier Stands Alone

"The Army's charter is more about holistically improving the physical, mental, and spiritual health of our Soldiers and their families than solely focusing on suicide prevention. If we do the first, we are convinced the second will happen."

— General Peter W. Chiarelli, VCSA

The recent increase in suicide rates among soldiers represents an unacceptable loss to the Army. Combating suicide means more than prevention — it requires promoting a holistic approach by addressing the physical, mental, and spiritual aspects of taking care of soldiers, families, civilians, and communities.

Today's environment places inherent stress and burdens on all leaders, soldiers, and families. As leaders of the armor and cavalry community, we must commit to ensuring the overall well-being of our force. To accomplish this, we must remain cognizant of potential triggers and warning signs of suicide so we can raise awareness and increase vigilance for recognizing those who might be at risk for suicidal behaviors. Furthermore, we must create a command climate of acceptance and support for those who reach out for help by recognizing their courageous efforts as a sign of individual strength and maturity. The Armor Center's goal is to create and foster an environment where all soldiers and family members, who may be at risk for suicide, will quickly be identified and receive successful intervention and appropriate care. We are committed to build the psychological resilience of our forces and instill positive life-coping skills, which will be reinforced by all leaders throughout the armor and cavalry forces.

Suicide prevention, like all leadership challenges, is a commander's program and every leader's responsibility at every level. The success of the suicide prevention plan rests on proactive, caring, and courageous people who recognize the imminent danger and take immediate action to save lives. Active engagement of everyone can help minimize the risk of suicide within the Army to stop this tragic and unnecessary loss of human life — suicide prevention is everybody's business in the Army.

The mission of the Army's Suicide Prevention Program is to "improve readiness through the development and enhancement of the Army Suicide Prevention Program policies designed to minimize suicide behavior; thereby preserving mission effectiveness through individual readiness for Soldiers, their Families, and Department of the Army civilians." To ensure mission success, the Army has developed a commander's tool kit, which is designed to assist leaders at all levels as they implement suicide prevention programs. This tool kit was developed to assist leaders in incorporating resources into existing training, or create new training; and provide soldiers readily available materials on recognizing and reacting to potential suicide behavior.

Prevention education is key to reducing the threat of suicide and many prevention resources are readily available. All soldiers and leaders are encouraged to become familiar with the dangers of ignoring the signs and symptoms of a potentially suicidal buddy. The Army Suicide Prevention Program Tool Kit Resources can be viewed and downloaded at *http://www.armyg1. army.mil/hR/suicide/commandertoolkit. asp,* and include:

➢ Suicide Prevention Training Aids List, U.S. Army Center for Health Promotion and Preventive Medicine.

➢ Guide to Installations and Units.

➢ Quick Reference Guide.

➢ Program Check List (CAC login required).

➢ Suicide Prevention Awareness Training Lesson Plan.

➢ Suicide Awareness for Leaders Briefing, 2007.

➢ Suicide Awareness for Soldiers Briefing, 2007.

➢ Suicide Prevention Posters

➢ Battlemind Training I

➢ Battlemind Training II

Other available resources include: Emergency – 911; Military OneSource Crisis Intervention Line, 1-800-342-9647; The Defense Center of Excellence (DCoE), 1-866-966-1020; Suicide Prevention Lifeline, 1-800-273-TALK (8255); Army G-1, Army Well Being Liaison Office, 1-800-833-6622; and Wounded Soldier and Family Hotline, 1-800-984-8523.

There are a multitude of factors involved in suicide and there is no one single solution. In many of the cases, soldiers were dealing with relationship issues, but there were also other factors involved such as legal, financial, and medical problems. Individually, or collectively, these factors are manageable; however, when compounded by the stress of deployments and lengthy separations, some situations can be overwhelming. Asking for help is a sign of strength, not weakness. Part of our Warrior Ethos is personal courage and recognizing that you need help and being willing to seek that help requires personal courage.

Forge the Thunderbolt!

The Anatomy of an Ambush: Small Kill Teams in the Contemporary Operating Environment

by Captain William C. Baker

"By eliminating enemy leaders and harassing troops, sniping softens enemy resistance and weakens morale."

— U.S. Army Field Manual (FM) 21-75
Scouting, Patrolling, and Sniping, 6 February 1944

Army commanders and frontline leaders have used skirmishers and snipers since the development of firearms. The armies of Napoleon used *Voltiguers* (skirmishers) forward of their infantry lines to target enemy personnel, harass opposing formations, and spread general panic among troops long before the French Emperor unleashed his attacking columns to sweep the opponent from the field.[1] Conversely, the British army's green jacketed rifleman, armed with the Baker rifle, performed a similar role on the Iberian Peninsula. Their use of the rifled musket allowed them to kill French artillerymen, skirmishers, and officers without putting themselves in range of French smooth-bore muskets.[2]

In the current fight in Iraq and Afghanistan, small kill teams (SKT) are routinely used to destroy improvised explosive device (IED) emplacement teams, conduct counter-mortar and counter-rocket missions, and establish observation posts (OPs). While the pool of snipers in the conventional army is rather small and limited to infantry formations, the U.S. Army has recognized the need for trained marksmen above the normal basic rifle marksmanship and close quarters marksmanship requirements. With designated marksmen and long-range training, many scout and infantry platoons have the ability to employ lethal teams in concealed positions

"The troop's AO included numerous Sunni villages along ASR Lincoln, which ran east-west from Highway 1 into Al Anbar Province and paralleled the Grand Canal, which deposits water from Lake Tharthar into the Tigris River. ASR Lincoln was the only high-speed avenue of approach into the Troop's AO, making it an attractive target for insurgents using IEDs to disrupt coalition operations."

on the battlefield. This article highlights the benefits, restrictions, and unavoidable risks when employing small teams to disrupt and destroy the enemy.

The Small Kill Team and Doctrinal Parallels

SKTs can be employed by a platoon, similar to ambushes, and tasked with gathering intelligence, harassing the enemy, and destroying enemy personnel and equipment. The SKT typically conducts an attack by fire, with the element that closes with and destroys the enemy coming from another patrol. However, there are some important differences. The SKT contains both the assault and security elements contained locally to maximize firepower and use the element of surprise. Because of its small size, the SKT's deliberate ambushes are usually conducted to maximize standoff from the enemy.[3]

The SKT has some marked differences from traditional sniper teams:

- Snipers are usually employed in two-man teams; the SKT employs a team of soldiers, or larger, providing the team the ability to self-sustain and survive when compromised.

- Snipers use more covert techniques when moving to avoid detection; SKTs move more overtly in certain situations.

- The SKT carries more firepower than a sniper team, allowing it to ambush vehicles and more enemy personnel.

- The SKT's integrated medics have the ability to perform level-one care; snipers perform buddy aid and combat lifesaving (CLS) until other forces can extract the team.[4]

Alternate Supply Route (ASR) Lincoln

In November 2006, the cavalrymen of B Troop, 1st Squadron, 7th U.S. Cavalry (B/1-7 Cavalry) arrived at Taji, Iraq, and conducted the relief in place of B Troop, 7th Squadron, 10th U.S. Cavalry. B/1-7 Cavalry's area of responsibility (AO), Saba al Bor, a city of approximately 60,000 Iraqis, was already torn apart by sectarian strife.

The troop's AO included numerous Sunni villages along ASR Lincoln, which ran east-west from Highway 1 into Al Anbar Province and paralleled the Grand Canal, which deposits water from Lake Tharthar into the Tigris River. ASR Lincoln was the only high-speed avenue of approach into the troop's AO, making it an attractive target for insurgents using IEDs to disrupt coalition operations. The situation was made more difficult by the previous U.S. unit, which emplaced barriers along the southern approaches to Lincoln, preventing civilian vehicle traffic from moving onto the ASR. However, it also prevented U.S. patrols from pursuing insurgents south into the small villages and farmland. Insurgents conducted complex attacks or small-arms ambushes, achieved their effects, and retrograded south without reaction from Blackhawk's patrols.

Pursuit of the enemy was conducted only on foot. Soldiers from the 9th Iraqi Army Division conducted traffic control point (TCP) operations along Lincoln to discourage IED emplacement, but their lack of night-vision devices prevented them from patrolling at night, thus allowing the enemy to emplace mines and other IEDs during hours of limited visibility.

Keeping this route free of IEDs was crucial to influencing the population in Saba al Bor. If our forces were unable to get into our AO, the two sides would continue to tear the city apart. After numerous IED incidents — both found and detonated — disrupted coalition and Iraqi patrols and destroyed vehicles, our platoon received the task to destroy IED emplacers and mortar teams along the route to allow the troop freedom of maneuver into Saba al Bor.

Attacking the Problem

The platoon immediately formed a SKT, made up of six scouts, who would conduct operations along the ASR. Led by a section sergeant, the team was chosen based on dismounted skills and shooting ability. The team included one 19D staff sergeant, four 19D specialists (one of which was a designated marksman), and one medic. During operations, the team was armed with an M14 rifle, an M107 Barrett .50-caliber sniper rifle, and an M249 squad automatic weapon (SAW). Each time the team was inserted, the SKT moved with multiple communications systems, such as the multiband inter/intra team radio (MBITR) and a PRC-119 manpack radio system for longer range communications (See Figure 1).

From a planning standpoint, the SKT team leader planned his hide sites, infiltration and exfiltration routes, and general scheme of maneuver. As the platoon leader, I helped refine his plan and developed the extraction and quick reaction force (QRF) plan to match his dismounted scheme of maneuver. The QRF remained in sector throughout the operation, either at a fixed site or conducting patrols. The SKT had a standard 2-hour check-in time with the platoon leader — with such a small team, any deviation from this timeline resulted in immediate extraction. The team received priority intelligence requirements (PIR) from the troop commander — IED emplacement teams were top priority, but the SKT could pass on attempts to ambush mortar or rocket teams, which were killing Iraqis in the city.

In early December, we began the SKT operations in earnest, but quickly ran into difficulties. Initial coordination with the Iraqi army (IA) company patrolling Lincoln during the day was poor, which resulted from a lack of trust between the two units — B Troop was new to the AO and we were unsure how the predominantly Sunni IA tank company would respond to our troop targeting Sunni insurgents. We used the IA tank company's static checkpoints along ASR Lincoln as a shaping operation for the SKT. The SKT team leader and I both believed that the insurgents would not emplace IEDs close to the IA checkpoints, which allowed us to overlay their positions with historical IED data to determine where to develop our engagement areas. However, during one operation, one of the IA BMPs fired in the direction of the team's hide site. We immediately changed our tactics to have the SKT observe the engagement area during night hours or use structures and berms south of ASR Lincoln to prevent detection by friendly forces.

Over the next several weeks, we continued to conduct SKT operations oriented on ASR Lincoln, but achieved few results. However, the SKT did use hours of limited visibility to move undetected among houses and villages south of the route, giving them an opportunity to make friends with some of the villagers. For example, our team spent the night with a family we had befriended from the village. With limited language skills, the man of the house provided information on which days the IED team came into the area, its composition, its weapons systems, and how it conducted attacks. The informant described these insurgent attacks as complex ambushes similar to conventional U.S. Army ambushes — the cell established security teams to protect the triggerman and IED emplacers. After IED detonation, these security teams would also provide direct fire. The emplacer would drop the IED along the route and the trigger man initiated the ambush. Following the engagement, the cell would exfiltrate to the south in civilian vehicles. The informant's information corresponded with our own experiences along the route. Our team even received assurance from a few citizens that they would contact us via cell phone on days they saw insurgents operating near their homes.

A Successful SKT Ambush

Over the next few days, we decreased SKT operations to judge the reliability of the intelligence we received and give the team refit time. Our informant called us on two occasions reporting anti-Iraqi force (AIF) activity in the area; on both occasions, either a U.S. or Iraqi patrol found the IED. Through pattern analysis and human intelligence (HUMINT), we determined the emplacement cycle was twice a week, on the same days each week. We determined the intelligence was actionable and we inserted the team the night before the next day's attack was expected. Using our informant's house, the SKT team leader oriented his
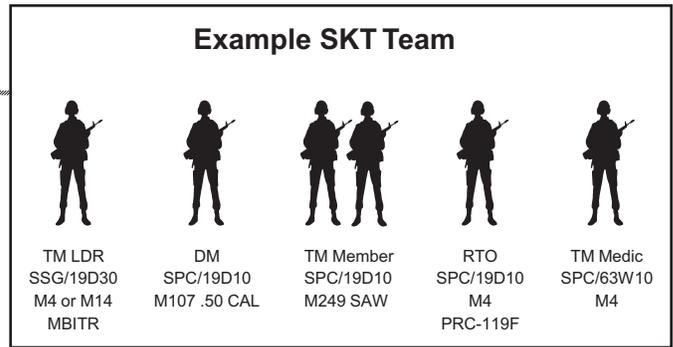
"The platoon immediately formed a SKT, made up of six scouts, who would conduct operations along the ASR. Led by a section sergeant, the team was chosen based on dismounted skills and shooting ability. The team included one 19D staff sergeant, four 19D specialists (one of which was a designated marksman), and one medic."
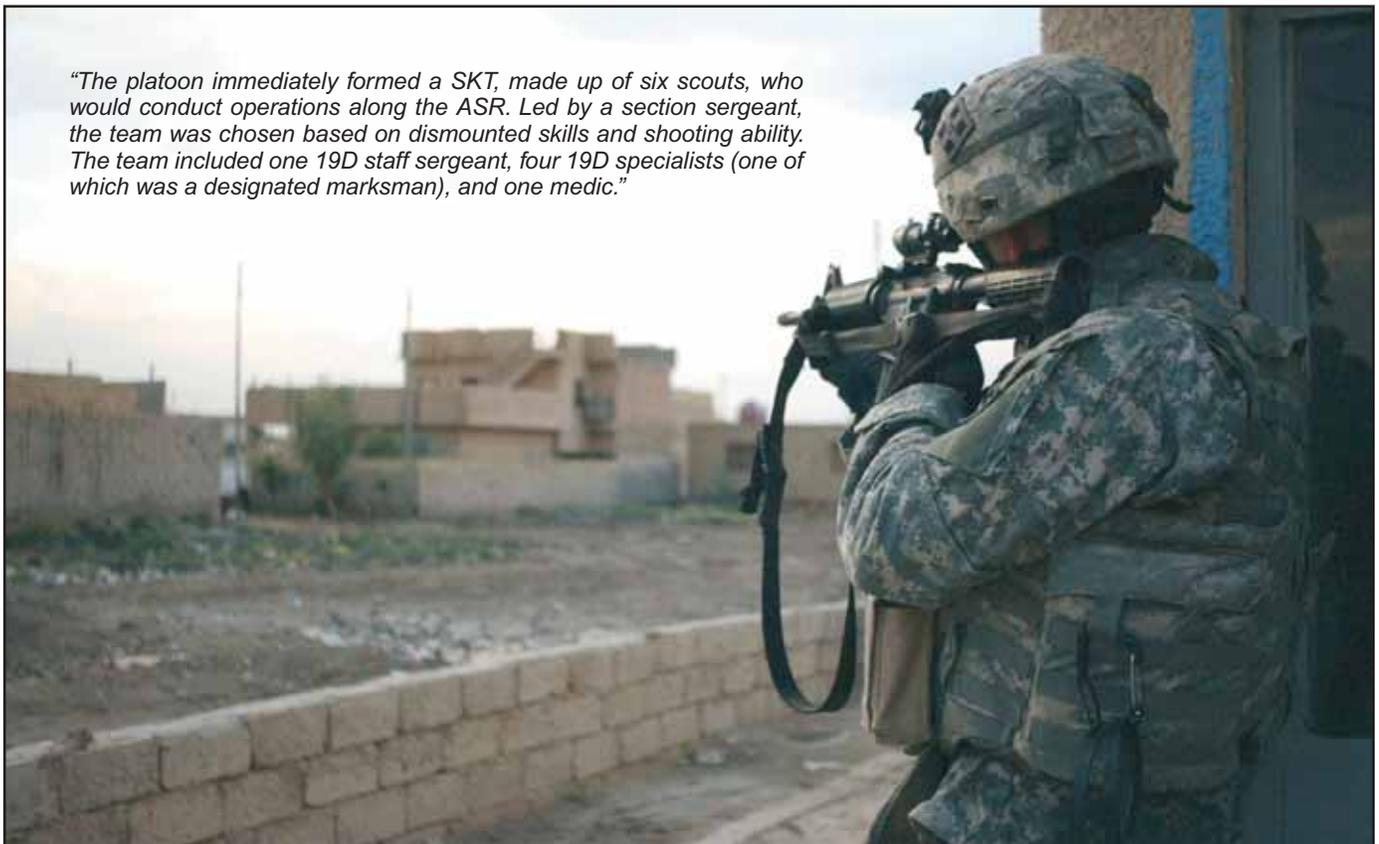
team on the roof, facing east in the general direction of where our informant said the insurgents parked their car.

At 0600 hours the following morning, the insurgent team arrived on time and parked their car approximately 300 meters from the SKT. As the insurgents left their car and began to move toward Lincoln, the SKT initiated fires with the M14 and SAW, killing one insurgent and scattering the rest. The M107 was used in an attempt to disable the car, but from the rooftop's vantage point, another building to the east prevented the designated marksman from disabling the car. As the team leader initiated fires, a patrol from our sister platoon moved from the west to the location of the SKT.

My platoon, refitting on Camp Taji, quickly left the forward operating base (FOB) and maneuvered down ASR Lincoln from the east. Dismounts from both patrols linked up with the SKT and began to clear the engagement area from west to east. As we moved along an overgrown canal, our scouts found one of the wounded insurgents. Instead of surrendering, the insurgent pulled the grenade pin, attempting to either throw it at the patrol or kill himself. He was engaged with small arms fire and killed, his grenade slightly wounding one of my soldiers. Later that day, a taxi driver turned over the body of one of the other insurgents who had expired in the back of his taxi as he attempted to flee the area following the ambush. Three of the five insurgents in the team were killed. The ambush achieved its effect. While attacks along ASR Lincoln continued, no IEDs or small-arms fire attacks occurred on the route for the next 11 days. When the AIF did return, their attacks were less frequent and disjointed.

The Benefits of a Small Kill Team

The SKT had a number of unique characteristics that gave it a distinct advantage in low-intensity conflict. The low silhouette and firepower of the SKT gave us an advantage in the rural areas and urban terrain of our AO. The SKT allowed us to observe and engage the enemy in areas where the enemy did not expect an attack and was ill prepared to maneuver against our team. The low profile of the SKT made night and urban infiltrations possible without much noise or disturbance.

"…SKTs gathered intelligence and gained support among the local population. In our area, as with many areas in Iraq and Afghanistan, the populace tends to avoid engaging U.S. forces in conversation or passing on information for fear of reprisal from members of the insurgency."

The SKT also assisted the commander in bridging the intelligence, surveillance, and reconnaissance (ISR) gap between ground and sensor surveillance. Operating from the FOB or combat outpost, a scout troop is usually limited by either fuel or class I during its screen line or counter-IED operations. Unmanned aerial vehicles (UAV) and air weapons teams (AWT) coverage is usually rare and oriented on battalion named areas of interests (NAI), which limits its effectiveness at the troop level. The SKT conducted surveillance for the troop commander, orienting on NAIs of his choosing and performed continuous reconnaissance for days at a time.

An enemy who knows that U.S. forces are employing SKTs to destroy his mortar teams or IED emplacers will exercise caution to protect his assets. He will increase the size of his teams to combat the SKT threat, which makes the enemy's activities easier to detect by other ISR assets. The insurgent is forced to change his tactics or move his operations altogether to prevent the loss of his teams.

Finally, SKTs gathered intelligence and gained support among the local population. In our area, as with many areas in Iraq and Afghanistan, the populace tends to avoid engaging U.S. forces in conversation or passing on information for fear of reprisal from members of the insurgency. The SKT, during hours of limited visibility, conducted HUMINT gathering without detection and the small number of soldiers made informants more comfortable during meetings. For a scout platoon or troop, establishing OPs and gathering intelligence is already an important skill set for the cavalry scout.

Employing the Small Kill Team

Following the success of the SKT in late December, the platoon continued to use its team tactics to effect counterinsurgency operations, such as destroying Sunni and Shi'a teams inside the city limits, and countering enemy attacks such as mortar and rocket teams shelling Saba al Bor. The success was minimal. One problem was that the center of gravity for Saba al Bor was the people — killing one or two insurgents in the city had little or no effect on the flow of refugees out of the area or the violence that was occurring inside the city limits. Also, information gathered on mortar and rocket teams was so sparse that we had to devote countless manhours, which could have been used to patrol the city and engage the population, to observing NAIs.

Removing five to six soldiers from a 30-man scout platoon to perform an SKT mission left the platoon without enough dismounts in the vehicles to conduct urban mounted and dismounted patrols. During continuous operations, the entire troop was almost solely devoted to providing QRF for the SKT and fixed-site security, which meant fewer mounted patrols and little time and manpower for key leader engagements.

We learned that at the team level, site selection is critical to mitigate risk; we never deployed back to a location we had used during previous operations. After a number of SKT operations in our AO, we received reliable reports from locals of abandoned houses being rigged with explosives by AIF in the villages around the city to prevent future SKTs in the area. Any location where a team is compromised should never be used again.

"With proper planning and a well-trained team, the SKT can achieve results and affect the battlefield in ways most mounted and dismounted formations cannot. The commander must ensure his SKT is well trained and adaptive enough to fight and win against an adaptive enemy in difficult terrain."

It is important to understand from a tactical standpoint that the use of SKTs is a shaping operation, not a decisive operation. By nature, IED emplacers, mortar teams, and enemy patrols constitute the lowest-ranking members of an insurgent cell. While the SKT may prevent IEDs or indirect fire attacks for a limited time, an enemy entrenched in the population can always recruit new emplacers or mortar teams for a small price. In a counterinsurgency environment, tactical success achieves little — high-ranking insurgents are rarely killed and insurgents, in general, are rarely alienated from the population. A commander, at any level, who chooses to employ SKTs to target low-level insurgents, must understand that this tactic cannot become the decisive operation for the company or battalion.

While scouts are trained to conduct dismounted infiltration and exfiltration, establish observation posts, and report enemy activity, training SKTs at home station is not available. Pre-deployment training of long-range marksmanship and sniper emplacement courses have assisted units without trained snipers to develop these teams. Forward thinking in infantry and reconnaissance organizations should focus training time at the platoon level to develop these teams. The more time these teams spend together working on the fundamentals before they reach theater, the better they will be prepared.

Our SKT stayed mainly in rural areas during the early portion of the deployment; they had to first gain experience as a working team to prepare for operations in the city. The SKT required tactical knowledge of its battlefield before it was employed in the city of Saba al Bor. Also, very few reconnaissance formations have trained snipers who can train marksmen and develop skills needed to survive and achieve results.

The SKT is an excellent choice for commanders to shape their AOs. SKTs can gather and exploit critical intelligence, which can lead to the capture of key leaders and the destruction of the enemy's ability to mount a successful insurgency. Conditions in the AO must be set prior to the execution of the SKT, an enemy pattern of life must be firmly established, and care must be taken to prevent SKTs from becoming the decisive operation. With proper planning and a well-trained team, the SKT can achieve results and affect the battlefield in ways most mounted and dismounted formations cannot. The commander must ensure his SKT is well trained and adaptive enough to fight and win against an adaptive enemy in difficult terrain.

Notes

[1]Gunther E Rothenberg, *The Art of Warfare in the Age of Napoleon*, Indiana University Press, Bloomington, IN, 1980, p. 116.

[2]Ibid, pp. 66-67.

[3]Headquarters, Department of the Army, U.S. Army Field Manual (FM) 3-21.8, *The Infantry Rifle Platoon and Squad*, U.S. Government Printing Office (GPO), Washington, DC, 28 March 2007, pp. 7-27 to 7-29.

[4]Headquarters, Department of the Army, FM 23-10, *Sniper Training*, GPO, Washington, DC, 17 August 1994, pp. 1-1 to 1-3.

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Enhancing the Recce Troop's Lethality

by Sergeant First Class James Gentile

It's no secret that today's scout platoon conducts a wide array of combat missions to support overseas contingency operations. The scout's traditional roles of solely relying on stealthy reconnaissance and primarily using indirect fires to destroy the enemy are fading. The technique of sending out a two-man eagle element has become extinct. Today's contemporary battlefield requires that modern scouts take the fight to the enemy and gather human intelligence (HUMINT) in dense urban environments.

Scouts no longer have the luxury of waiting to conduct battle handover with infantry once enemy contact is made due to recce organizations being assigned independent areas of operation. There are no more advancing motorized rifle regiments on a linear battlefield, only deadly targets of opportunity that are presented in the tight confines of downtown. Scouts must rapidly acquire and precisely destroy their adversaries in mere seconds. If the recce platoon fails to meet this standard by limiting factors, we must be prepared to fight that same enemy combatant another day. Next time, he may win!

I have read several published articles recommending ways to improve the Stryker recce platoon and troop. These ideas primarily include increasing dismounted capability and creating two platoons of six reconnaissance variant (RV) Strykers per troop. Although, these ideas are interesting, they fail to address the recce platoon's main flaw — it lacks the edge to bring mounted, lethal combat power to the fight.

Enhancing the Recce Platoon's Mounted Killing Power

Simply put, the current recce platoon does not need four RV models equipped with the long-range advanced scout surveillance system (LRAS3). Although the LRAS3 is a critical tool used to acquire targets at great distances and rapidly report their locations, it is overkill. The LRAS3 loses its benefit in the close fight; more importantly, this platform severely degrades the gunner's ability to rapidly and precisely kill the enemy in tight confines of an urban environment. More often than not, the platoon is prevented from placing each vehicle in a textbook position within its assigned sector. The reason is simple: terrain limitations and mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC) will almost always be prohibitive. In today's unconventional environment, recce platoons are forced to use the wingman concept to provide reciprocal security in the urban setting, which creates redundant coverage of the objective area.

A better concept is to replace two of the RV Strykers with two infantry carrier variants (ICVs) equipped with the remote weapons station (RWS). The ICV will provide the platoon with a multifunction gunner's system that is completely integrated with a laser range finder (LRF). In essence, the new platoon would consist of two RVs and two ICVs; recce sections would each have an RV and ICV for mutual support. This redesign at platoon level would give the recce platoon and troop two awesome capabilities: the ability to accomplish its primary mission of functioning as a reconnaissance, surveillance, and target acquisition (RSTA) element; and the capability of operating as a hunter-killer team. The recce platoon would also have the capability to place lethal and highly accurate fires on enemy locations without exposing its gunners to direct fire. Precisely delivering fire has the added benefit of reducing unnecessary ammo expenditures during prolonged enemy engagements, and reduces collateral damage.

Most direct-fire engagements fall somewhere between 30 to 300 meters due to the enemy's limited weapons systems. It is critical to mention that roughly 80 per-

cent of all engagements occurred either mounted or directly near Stryker supporting dismounts. Scouts must be transported to and from the objective by the RV, unless air assaulted. Ironically, most direct-fire engagements are initiated during mounted movement to the objective, regardless of the type of mission. The trend is simple to recognize — we must improve our ability to acquire and engage with precision from the RV platform.

The recce platoon's ability to quickly acquire targets while mounted during simple contact, such as small-arms fire, is reduced due to the gunner's exposure, which automatically degrades his crew-served weapon as it must be manually operated to acquire and engage the enemy. Platoons commonly suppress suspected enemy locations as they maneuver out of the kill zone and attempt to reacquire and engage targets from safer distances, which is due to the lack of a fire control system in the recce platoon. As a result, some enemy combatants cannot be engaged and are able to successfully withdraw from the ambush.

The originally designed Stryker platform, intended to precisely acquire targets, is actually degrading the gunner's ability to effectively function in the current operating environment. In today's fight, recce platoons must possess the capability to stand ground during small-arms engagements and engage the enemy. In essence, this concept is no different in theory when compared to other scout organizations comprised of three Bradleys and five HMMWVs.

Recce platoons equipped with ICVs would enable leaders to maneuver these killer platforms directly into small-arms engagements and locate and destroy the enemy without exposing the gunner, who would have the ability to scan, lase, and precisely engage from protected positions. These ICVs could be placed in overwatch positions to actively scan and counter the enemy sniper threat. The recce platoon's direct-fire capabilities and control would be enhanced by both precision and time. This concept will also greatly increase the platoon's ability to kill the enemy in any operating environment — not just in urban settings. For example, gunners would have the advantage when faced with targets concealed in palm groves engaging their vehicles, or moving targets in the open along Iraq's borders at roughly 600 meters at 2 a.m.

The ICV would vastly improve the mounted element's role as direct support for dismounted scouts. Current doctrine specifically states that the RV's crew-

Current SBCT Infantry Company

COMPANY HEADQUARTERS

MGS PLATOON

MORTAR SECTION

MEDICAL EVAC TEAM   **SNIPER TEAM**   **FIRE SUPPORT TEAM**

RIFLE PLATOON (x 3)

PLT HQS   **RIFLE SQUAD (x 3)**

WPNS SQUAD
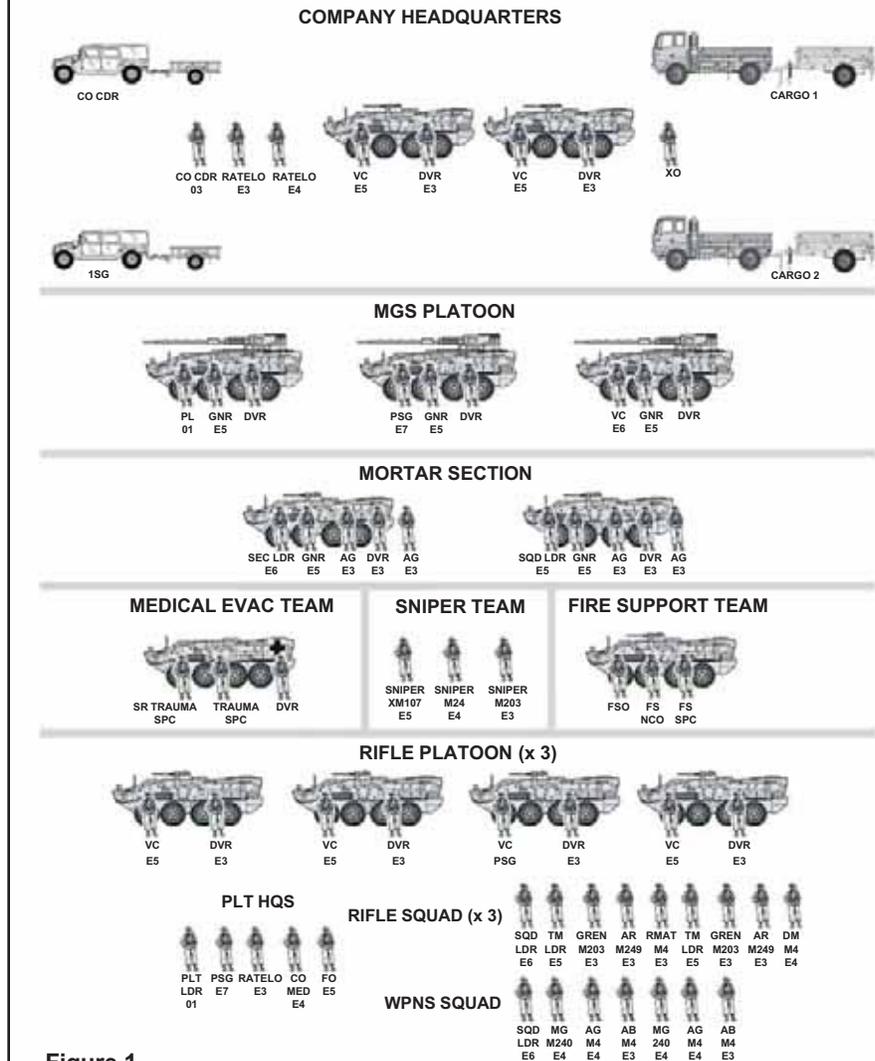
Figure 1

served weapons lack standoff, lethality, and survivability in terrain lacking cover and concealment. If recce platoons and troops were equipped with ICVs, troop commanders would have six killer platforms to provide massive firepower and dominate the fight in terrain that lacks cover and concealment.

RV Technical Limitations

For years, scouts have been one of the most flexible and adaptive tools on the battlefield; however, when making primitive alterations to a modern piece of equipment to increase odds of survival, it's time to reanalyze. Recce gunners developed innovative ideas by constructing duck-hunter blinds with camo nets around their positions to mask their silhouette when in the hatch actively scanning and attempting to locate enemy positions. An active

enemy sniper cripples a gunner's ability to effectively observe his sector. Other common primitive modifications include sandbagging around hatches and securing HMMWV glass to cupolas, often referred as "pope glass." Our recce gunners are making primitive modifications to increase their odds of survival during enemy direct-fire contact. Besides gunners being exposed, below are a few examples of how the RV might degrade the gunner's ability to precisely engage targets:

Optic challenges. Gunners must acquire targets using the LRAS3, then transition to the M2 or MK19, equipped with a PAS-13 V1/V2 thermal optic. During limited visibility or extended ranges, time is lost as gunners switch to a different optic, new sight picture, and attempt to reacquire with decreased magnification. Some gunners attempted to mount the ANPEQ-2A

MGS Platoon

105MM MAIN GUN
.50 CAL MACHINE GUN
7.62MM MACHINE GUN

105MM MAIN GUN
.50 CAL MACHINE GUN
7.62MM MACHINE GUN

MGS

MGS 1
PLATOON LEADER
GUNNER
DRIVER

105MM MAIN GUN
.50 CAL MACHINE GUN
7.62MM MACHINE GUN

MGS 2
VEHICLE COMMANDER
GUNNER
DRIVER

MGS 3
PLATOON SERGEANT
GUNNER
DRIVER
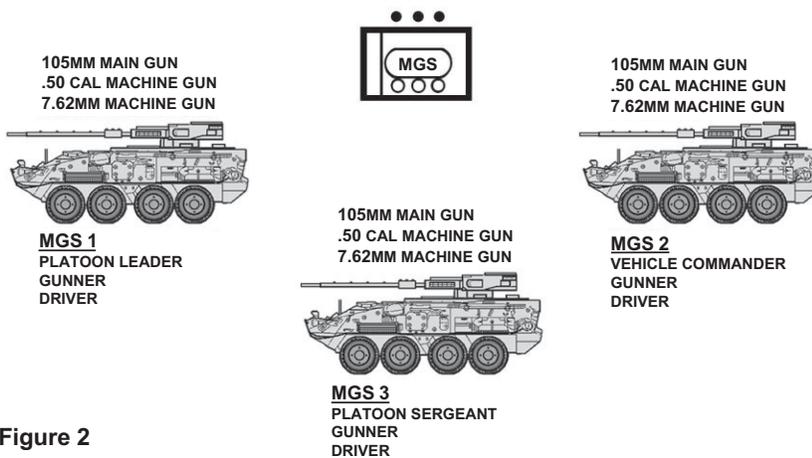
Figure 2

to engage targets during limited visibility; the drawback — night-vision goggles and infrared beams washout under street lighting in the urban environment.

Unstable crew-served mount. The RV crew-served mount is unstable, which allows the weapon to easily transition off target. For direct-fire engagements in urban terrain, the traversing and elevation mechanism is ineffective due to the limited degree of angle allowed during elevation adjustments. RV gunners frequent-ly opt to free gun in dense urban terrain. Also during daytime engagements, all necessary wind and elevation adjustments are manual. Precision is instantly lost with this technique, which usually leads to increased ammo expenditures and collateral damage.

Degradation of optic's zero. PAS-13 optics are consistently removed from crew-served weapons during daylight operations. Gunners remove these thermal devices to counter the possibility of optic loss or damage in case of improvised explosive device (IED) or vehicle-borne IED contact. This will degrade the optic's zero. Gunners are therefore forced to engage targets without the aid of zeroed sights.

No laser range finder. Gunners technically must obtain a range from LRAS3 during engagements to deliver effective fire. During daylight engagements, gunners must use range estimation and adjust fire accordingly. Precision and time are lost on targets of opportunity. During section gunnery, crosstalk is critical between gunners to rapidly determine range and put rounds on target.

Modifying the Existing Fleet

In addition to an improved concept for the recce platoon, we need to seriously look at modifying the existing fleet of RV Strykers. This modification would include designing a mechanically controlled LRAS3 yoke mount to allow gunners to manipulate the system from inside the Stryker. The design must allow gunners to lase targets, observe the LRAS3 video feed on a separate monitor other than the Force XXI battle command-brigade and below (FBCB2), and control LRAS3 movements within the gunner's station. This new ability would greatly improve the survivability of RV gunners since they must currently remain exposed. RV gun-

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ners were constantly at great risk when stationary from precision small-arms fire and small-arms fire.

Immediately identifying the exact location of a small-arms shooter is a challenge for the RV gunner, considering engine noise and other external audio distractions, which is why each platoon should be immediately retrofitted with the boomerang shooter detection and location system. This system rapidly analyzes the muzzle blast and shockwave of a round to locate the direction of the sniper. This system will aid in closing the gap between guesswork and verification of the sniper's location.

The MGS Platoon and the Recce Troop

The recce troop suffers in another crucial aspect; it lacks the ability to deliver fires lethal enough to penetrate buildings or fortifications. The reason is no mystery — the recce troop lacks organic mobile gun system (MGS) or antitank guided missile (ATGM) assets. Recce troops are typically supplied with AT4s and, on average, one to two javelins per troop. The AT4 failed to penetrate the most common constructed buildings in Iraq. This fact is based on personal experience. To attempt to deploy either system would require exposing scouts, once again, thereby making them vulnerable to small-arms fire in the close fight. Some leaders would argue the fact that the answer would be aviation or close air support (CAS) assets. In my opinion, it depends on the distance between your ground forces and the target and what phase of the operation you are executing. Keep in mind that it takes time to pull back and confirm dismounted element locations and place them at the appropriate minimum safe distance, depending on the type of air munitions requested. Also, the complexity of the target will determine if a joint tactical air controller is required to initiate the mission.

The current recce troop modified table of organization and equipment leaves the task of suppressing enemy locations with devastating effects to the troop's mortars; herein lies the main issue. The mortar platoon is restricted from firing rounds into an urban environment; the risk of collateral damage outweighs the reward of using mortar systems. Time is also lost while waiting for clearance of fires from higher echelon's deconflicting airspace. Due to restrictions on mortar sections, infantrymen are routinely used to make up additional dismount squads.

Based on my previous assessment, recce organizations occupy and maintain control of their own sector; therefore, each recce troop should have one MGS platoon. Currently, each Stryker brigade combat

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team (SBCT) infantry battalion operates with three MGS platoons. Each infantry company is assigned one MGS platoon, which is equipped with three MGS Strykers. Recce troops would have the flexibility to attach one MGS Stryker per recce platoon or keep it as a pure element, depending on the type of operation. The ability to devastate the enemy with overwhelming violent fires has always been, and should remain, the core of armor.

I will close with the recommendation to gain critically needed combat power organic to recce troops. SBCT infantry battalions are currently being fielded with new MGS platforms; many of these infantry battalions owned ATGMs prior. Each recce troop could be assigned a platoon of three ATGMs, which still provides the ability to move into direct fire engagement areas and deploy the tube-launched, optically tracked, wire-guided (TOW) missile to knock out hardened positions. ATGM gunners are afforded the protection and time to locate enemy targets using the modified improved target acquisition system (MITAS). Incorporating either the MGS or ATGM variants would provide troop commanders with a fully integrated fire-control system that would be available immediately at any given time.

The Bottom Line

The notion that scouts have different roles in combat than those of their SBCT counterparts couldn't be any farther from the truth. This specifically means that a scout should not be expected to operate with degraded Strykers based on the past

pretense that we only reconnoiter objectives using the LRAS3 outside the objective — we now operate inside the objective. Scouts require the same assets as infantrymen do to accomplish their mission. Our current RV platforms are maneuvering in the tight confines downtown under extreme conditions. We need the capacity to support ourselves as we execute clearing operations, cordon and searches, convoy security, and targeted raids. During combat operations, the enemy equally engages scouts and infantry — he uses the same tactics and techniques without regard to branch.

Not only must our mounted element decisively control the engagement before we drop 9 to 20 dismounts from the ramp, but we must possess the capability to move in and effectively support those dismounts. By enhancing the recce troop's lethality, we will effectively dominate the fight by significantly reducing exposure and improving target acquisition and precision. SCOUTS OUT!

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Army Reconnaissance Course:

Defining the Aim Point for Reconnaissance Leader Training

by Major Robert C. Perry and Lieutenant Colonel (Retired) Kevin McEnery

"The old method of training one simple task at a time, discretely, doesn't push soldiers and leaders to become the kind of agile, adaptive thinkers who can perform successfully across the entire spectrum of operations."[1]

— Brigadier General Robert Brown

The new Army Reconnaissance Course (ARC) was specifically designed to meet the demands of today's reconnaissance units. The ARC, which conducted its pilot course from 23 March to 21 April 2009, is completely new and unique and not based on reorganization or revision of an existing course. The intent for the course remains consistent with the original vision of Colonel (Retired) J.W. Thurman, who saw a need to fill the gap between baseline institutional training and higher skill-level expectations that are required from junior leaders to meet the unique dynamics of reconnaissance units.

In the 20-plus years since Colonel Thurman's initiative, operating environments, organizations, equipment, and combat experiences of officers and noncommissioned officers (NCOs) have changed dramatically. The scope of the institution's responsibility for training recon leaders has also expanded greatly. While the intent for training leaders to a higher level has remained valid over time, the methods used to achieve that intent must reflect new realities for the institutional base.

The purpose of the ARC is to prepare commissioned officers and NCOs to perform effectively as leaders of recon platoons in the modular force. This is achieved through developing the fundamental tactical and technical skills and adaptive leader qualities needed to face current and future operations across the spectrum of conflict. Recon skills and leader attributes transcend the type of parent organization or platform. Leaders must be well grounded in fundamentals that allow them to adapt quickly to the operational circumstances that dictate why a particular type of brigade combat team (BCT), such as infantry, heavy, or Stryker, has been deployed.

The Purpose of the New Army Reconnaissance Course

"Traditional training and education may not meet all the needs of an expedi-

tionary Army…developing new approaches may be necessary."[2]

— U.S. Army Field Manual 7-0

The Army's transition from a division-centric force to modular BCTs has not only increased the total number of dedicated reconnaissance units Armywide, it has changed long-standing assumptions about how such units fit into operational constructs. While the recon scout military occupational specialty (MOS) resides in the armor branch, leaders must be confident and competent in adapting their skills to the reconnaissance demands of commanders whose professional experiences may have been strongly influenced by branch-specific experiences. The Army cannot afford to have three courses individually tailored to the specifics of each platform-based organization; it requires one course focused on the most important attributes for recon leaders, regardless of platform, while simultaneously sustaining and enhancing individual skills and knowledge.

Transition in a complicated and complex organization, such as the U.S. Army Training and Doctrine Command (TRADOC), demands individual agility, initiative, adaptability, and accountability no less than that demanded in the operating force. The methods on which TRADOC courses are designed and delivered have been institutionalized over the course of three decades. Perhaps they have been too well defined — possibly over-engineered to a point where the separation between *how* leaders are educated and trained in the institutional base has grown too far from *how* leaders actually lead, train, and develop subordinates in the operating force. Instructional methods require a new look. Army and TRADOC leaders have been championing a shift from "what to think" to "how to think" for several years; however, the methods used to teach, train, and assess leaders in TRADOC professional schools still predominantly reflect "what to think."

Building a course around doctrinal tasks or operational techniques leads to a disjointed and, all too often, checklist approach to institutional training and evaluation, which is in direct contrast to the course's desired intent. Analysis of scout skill levels 3 and 4 reveals approximately 230 individual leader tasks for 150 supported collective tasks. The sheer number of discrete tasks has exceeded their utility for use as a key instructional design element. A one-time performance of a task to a universal standard does not equate to the ability to apply or adapt in combat or

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during unit training. The time allotted for institutional courses is limited, and while students are certainly exposed and tested on certain tasks, it is impossible to provide the extensive time and coaching necessary for individuals to develop the ability to apply these tasks. Shifting away from "tasks" as the focus of instructional design for courses *beyond the basic level*, and instead defining the *skills* and *attributes* that are the basis for subsequent performance of complex tasks is a change made out of necessity and relevance. The demands of the operating force for relevant and timely institutional training cannot be met by creating longer or more comprehensive task-based courses.

The platform differences found among reconnaissance organizations in the infantry BCT (IBCT), heavy BCT (HBCT), and Stryker BCT (SBCT) have also expanded the range of technical knowledge, defined as "tasks," required of scouts. The list of tasks the institution uses to define a scout has become too large and less focused on mastering fundamental skills and attributes that are prerequisite to adapting new tactics, techniques, and technology to solving reconnaissance problems. Instructional courses must be based on fundamental and enduring principles developed to a higher level and enhanced by current and emerging technical capabilities. Unit training focuses on the mission-unique requirements for that organization or type of unit. Institutional and unit training domains are not an either/or

relationship; instead, they depend on each other. In short, the institution provides leaders who are prepared for "a" war, while unit training focuses on developing leaders for "the" war.

Outcome-Based Training Principles

"We've gone to outcomes-based training… What we've learned in this fight is that Soldiers really need to be able to figure things out."[3]

— General Martin Dempsey

In an effort to mange increased demands and better focused resources, the ARC was designed on the principles of outcome-based training (OBT), which is not new and *is not* unstructured student "discovery learning" without standards.[4] It is also not simply "scenario-based training," as some observers have suggested. There are also some who argue that Army training has always been outcomes based under the existing design process — that meeting published standards are the outcomes. The process used to develop the ARC differs from the norm, but follows formal guidelines to ensure relevance between course design, instructor and student responsibilities, structured learning experiences, and most importantly, the outcomes the course is intended to achieve on behalf of the Army. OBT was selected for use in the ARC design because it provides a holistic approach, linking training design and execution in a way that promotes mastery of fundamental skills,

"The Army cannot afford to have three courses individually tailored to the specifics of each platform-based organization; it requires one course focused on the most important attributes for recon leaders, regardless of platform, while simultaneously sustaining and enhancing individual skills and knowledge."

while developing the attributes expressed in Army values. OBT is an *approach* to training and education, rather than a technique or system, because it considers:

- The purpose of training and education.
- The role of soldiers (as students, as leaders).
- The role of instructor cadre.
- The role of commanders.
- The role of the institutional domain.

These considerations are far more beneficial than creating a universal technique that assigns a one-size-fits-all approach to recon training and education. They also support the existing TRADOC program of instruction (POI) resource management processes. Other officer and NCO education system (OES/NCOES) courses provide the ARC cadre a foundation to build on, while unit training methods provide a backstop to link outcomes.

Applying OBT principles to the ARC development requires three elements:

- Mastering fundamental recon skills so students can solve problems by improvising and adapting existing knowledge in unique situations.
- Developing leader behaviors through mission-relevant problemsolving exercises; focus on demonstrating Army intangible attributes useful in establishing relevance between warrior ethos and other values and characteristics essential in conducting military operations.
- The ability to relate skills and knowledge to other tasks in the execution of military operations so students learn to think in terms of missions and problemsolving, rather than discrete activities.

The Doctrinal Base

"Leaders and individuals master the basics of their profession in institutional training."[5]

— U.S. Army Field Manual 7-0

Two new field manuals, U.S. Army Field Manual (FM) 3-20.98, *Scout and Reconnaissance Platoon*, and FM 3-20.971, *Reconnaissance Platoon*, were published in February 2009.[6] FM 3-20.971 captures the doctrinal similarities and capabilities differences of the BCT, armored cavalry regiment (ACR), and battlefield surveillance brigade (BfSB) troop types. One analyst notes:

"The [troop] manual writers acknowledged the different capabilities of each troop type throughout the text, noting where appropriate those qualities that made a particular unit either more effective or constrained in the conduct of a particular mission type.

"The [platoon] manual consolidates guidance for the platoons found in the brigade combat teams, the BfSB, and the armored cavalry regiment. Each different platoon type, however, receives coverage oriented upon its particular capabilities, although a general set of principles applied to all. In this manner, it differs sharply from the 2002 version, which superimposed concepts intended for the RSTA squadron recce platoon upon all reconnaissance and scout platoons without respect to their varied capabilities.[7]"

Of particular interest in these new publications is the recurring requirement for

the quality and ability of tactical recon leaders to rely on adaptability and a mix of employment methods, more so than knowledge of specific reconnaissance, surveillance, and security tasks. "Reconnaissance and scout platoons must be prepared to operate beyond the traditional roles of reconnaissance, surveillance, and target acquisition of enemy forces."[8] The new FMs avoid a prescriptive approach that locks a leader into a singular course of action. A mental flexibility, able-to-adapt method to evolving tactical conditions is preferred.[9]

In 2006, publishing FM 3-20.96, *Reconnaissance Squadron*, marked an effort to address doctrine associated with all three BCT types and the ACR.[10] The manual attempts to capture the common principles of the different organizations, but according to a recent analysis of mounted reconnaissance development, it emphasizes reconnaissance techniques and principles that contradict the experiences of units employed in combat overseas. Similarly, this manual makes little distinction among the specific capabilities of the different BCT types. These concerns triggered the manual's revision to more accurately reflect actual employment of reconnaissance organizations. The revised FM 3-20.96 is currently under review with a tentative publication date of 2010.[11]

Defining an Aim Point for the ARC: Teaching Reconnaissance or Leadership?

Doctrine and training publications include volumes on tasks that are conducted by recon units, but there is little that outlines the training and education for the development of "agile and adaptive" leaders. To better understand how to develop a course that creates this outcome, we must first realize what sets recon leaders apart from other leaders in the force, and how to increase their tangible abilities in addition to their knowledge.

The following characteristics reflect the skills and attributes of a recon leader:

Observably higher fundamental skills. Leaders assigned to recon units are expected to be highly capable at the foundational skills — navigation, communications and reporting, and tactical analysis — necessary for all higher level reconnaissance mission tasks. Exceptional navigation skills are essential to planning, movement, reporting, employing support assets, and maintaining freedom of action. Meeting the basic Army standards for land navigation is just the starting point for recon soldiers, not the minimum acceptable objective. Communications and reporting include technical skills associated with communications hardware, as well as effective communications of observations. Tactical analysis is the basis for effective anticipation and is a tangible skill for recon soldiers, not an administrative planning process. Recon soldiers are expected to develop an advanced sense of how and where the enemy may reveal himself for observation before making physical contact.

Better understanding of higher commanders' information requirements and how to find and communicate information. As the "eyes and ears" of the commander, scouts are expected to "see" what the commander needs to see and communicate observations relevantly. Understanding what the commander needs to know to develop situational understanding means recon leaders must understand why the commander needs to know and that his decisions depend on knowing. Comfort with the ambiguity of helping a commander find enemy information required for initial planning through reconnaissance pull operations is a demanding requirement. The information associated with route, area, zone, and point recon objectives must be relevant to those commanders who make decisions on how, when, and where to employ larger forces.

Better at planning and executing without mission compromise or loss of freedom of action. Planning and execution re-

"The list of tasks the institution uses to define a scout has become too large and less focused on mastering fundamental skills and attributes that are prerequisite to adapting new tactics, techniques, and technology to solving reconnaissance problems. Instructional courses must be based on fundamental and enduring principles developed to a higher level and enhanced by current and emerging technical capabilities."

"Of particular interest… is the recurring requirement for the quality and ability of tactical recon leaders to rely on adaptability and a mix of employment methods, more so than knowledge of specific reconnaissance, surveillance, and security tasks. 'Reconnaissance and scout platoons must be prepared to operate beyond the traditional roles of reconnaissance, surveillance, and target acquisition of enemy forces.' "

quire a high level of understanding of planning and employment factors that define the higher headquarters' capabilities, limitations, and intent. Recon soldiers must have the technical knowledge required to continuously evaluate the effects of terrain, enemy, and population dynamics on friendly operations. For internal mission planning, the technical knowledge and situational understanding of where a platoon is located, with regard to friendly supporting ranges and distances, is critical.

More competent with employment of organic and attached assets such as air, ground, and technical. Scouts operate at the edge of organic support system ranges and reinforcement distance. They are routinely expected to employ systems, such as technical surveillance, fires, and aircraft, effectively and often without the aid of attached specialists.

More confident at problemsolving, deliberate thought, anticipation, initiative, and risk management. The overall outcome of the ARC is to provide recon squadrons with soldiers and leaders who have not only been exposed to new information and tactics, techniques, and procedures, but who can enter into unit training and operations at an observably higher level. Recon leaders have developed the skills required to solve problems on their own when conditions do not conform to the "book solution." The intangibles of confidence, initiative, problemsolving, deliberate thought, and missionfocused risk management are what unit commanders want to see in their scouts

and small-unit leaders. Those intangibles do not have predetermined quantifiable standards in the same sense as purely mechanical tasks. These intangibles are, however, observable when soldiers are exceptionally competent in higher level fundamental skills that empower them to adapt and improvise under pressure.

Recon leaders are expected to demonstrate mastery of their unique tactical contributions to BCT operations. Mastery is not simply a function of time in service or number of deployments; it is an individual's ability to use the skills he has been taught to develop increasingly higher levels of proficiency on his own and in his subordinates through training and during combat under varying conditions. For individuals to develop mastery over time, they must have a model for skill development that exhibits an understanding of the fundamentals and technical dynamics (techniques, procedures, capabilities, and limitations) for applying fundamentals and experience and solving complex tactical problems (METT-TC dynamics) using fundamental skills within the context of a recon mission.

The ARC outcomes are the skills and attributes that distinguish an ARC graduate from other soldiers and leaders. The outcomes below each have specific associated performance measures used in formal student counseling and assessments:

- Observably higher fundamental reconnaissance skills — land navigation, communications and reporting, and tactical analysis.

- Better understanding of higher commanders' information requirements and how to find and communicate information.

- Better skills at planning and executing without mission compromise or loss of freedom of action.

- Competence with employment of organic and attached support assets — air, ground, technical.

- Confidence at mission-relevant judgment, problemsolving, anticipation, initiative, and risk management.

Training to the Aim Point:
The ARC Pilot Course

The ARC pilot was a 27-day course, 17 of which were conducted in the field. Exercises were designed to be physically, as well as mentally, demanding. Application required students to assess their situations relative to the mission, confidently make decisions on what tasks to apply to solve problems, effectively communicate decisions to others, and competently execute. Out of 40 students, 36 graduated from a course of 28 lieutenants and 12 NCOs. The pilot course focused primarily on cadre development and its ability to apply OBT principles and methods. The ARC cadre consisted of experienced active duty and retired 19D senior NCOs, all with combat experience, who demonstrated an ability to teach, train, and lead others in the operating force.

Over the past few years, a gap has emerged between how leaders lead, train, and develop subordinates in the operating force and how instructors teach students in the schoolhouse. Leaders, who have demonstrated effective agility and adaptability in combat, are required to suppress personal experiences and follow a system designed to ensure standardization. Using OBT methods empowers senior members of the reconnaissance profession to teach and develop the more junior members of the profession by combining experiences and expertise to produce the desired student outcomes within the course intent and construct.

To prepare and change their mindsets about instruction, the ARC cadre participated in several months of workshops, training courses, learning activity development, and, ultimately, a live pilot course to refine and assess their teaching skills. They learned new methods for designing activities, delivering instruction, and assessing performance, which, ironically, were not really new. These "new" methods closely reflected application of the very leader attributes and recon skills they applied as section sergeants, platoon ser-

geants, and first sergeants in the operating force — the same skills they applied to lead, train, and formally assess their subordinates in unit training and combat. The cadre's most challenging aspect was overcoming strong institutional traditions on how platform instructors should teach and test. An important benefit of this training was not introducing it as a one-time NCO professional development session, a new handbook, or a new checklist — the cadre learned the intent behind the methods and, as an added benefit, continually challenged each other to perform to higher professional standards.

BNCOC and able to perform Army Warrior Leader tasks relevant to their rank.

The ARC is deliberately focused on developing skills that unit commanders can expect an ARC graduate to demonstrate at *observably higher levels and with greater competence than other soldiers.* This helps focus limited institutional domain resources on those areas that will make a difference in mission performance when graduates return to the operating force.

In the ARC, *skill* is distinguished from doctrinal *task*. "Task" is defined as an identified, measurable activity, while

ability, confidence, and judgment) by presenting skills and tactical activities as problems to solve within defined principles. There are revisions and refinements that will occur over the next two course iterations to address lessons learned and assess overall course effectiveness, but the core design and construct remain valid.

Intangible attributes are evaluated by officers and NCOs in operating force units everyday and are fairly simple to observe in the ARC. The decisions made, or not made, when presented with a problem, provide cadre with an assessment of a
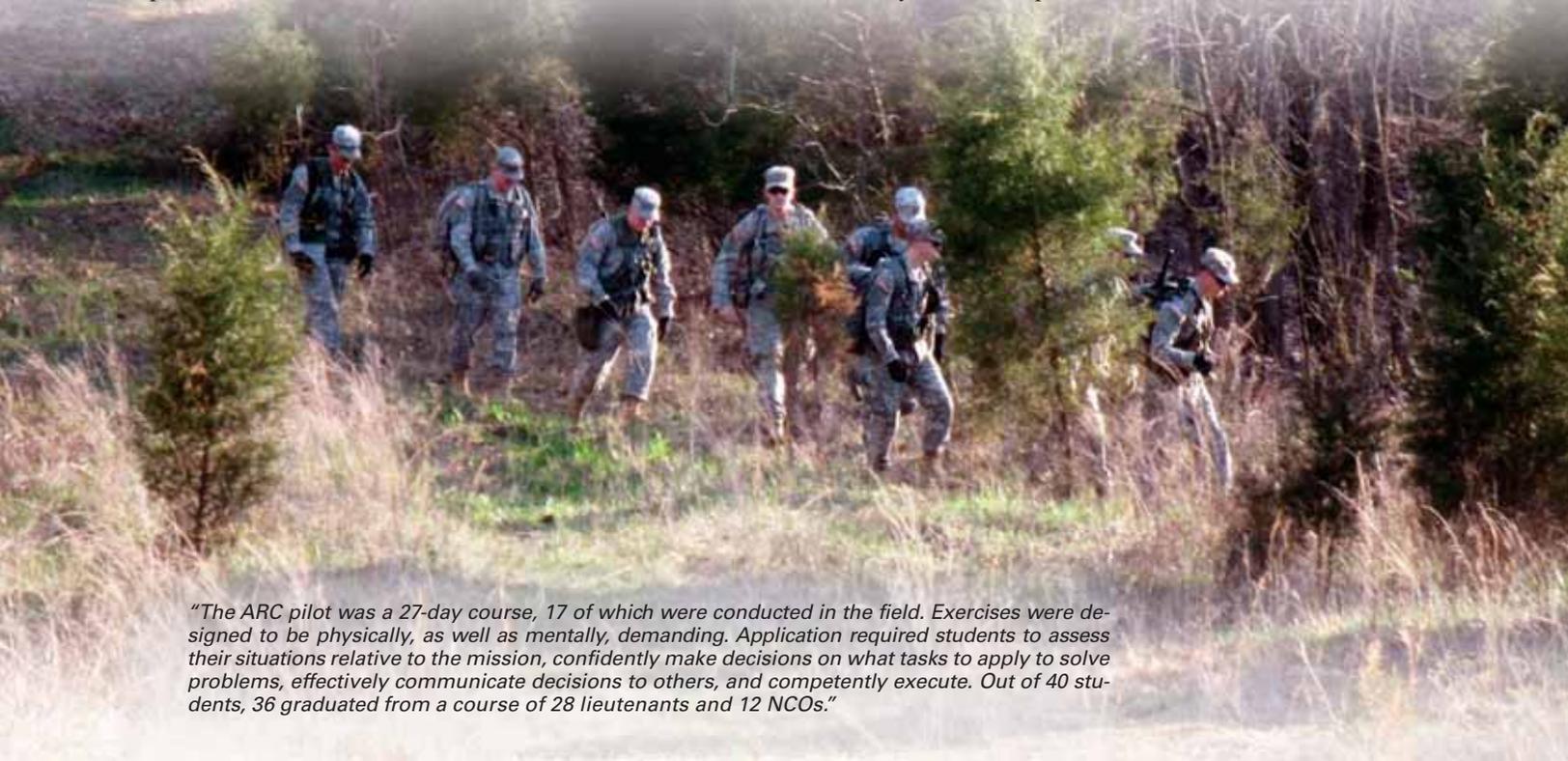
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Student Accountability for Performance

The ARC is not an "introduction to recon" course; it is designed for junior officers and NCOs who are assigned, or pending assignment, to reconnaissance units in HBCT, SBCT, IBCT, ACR, and maneuver battalion scout platoons. They are graduates of the Maneuver Basic Officer Leadership Course (BOLC) III, Maneuver Captain Career Course (MCCC), 19D/11B Basic NCO Course (BNCOC), or 19D/11B Senior Leaders Course. The ARC course schedule does not allocate time for re-teaching doctrinal reconnaissance information or refreshing baseline task standards already achieved in OES/ NCOES courses. Students with other reconnaissance-related specialties are also invited to attend ARC, but they must be a graduate of their respective BOLC III/

"skill" is defined as the *ability*, coming from one's knowledge, practice, and aptitude, to do something well. Further, "ability" is defined as competence in an activity or occupation because of one's skill. The outcome of the ARC is not discrete task performance to a universal Army standard (which is also covered in OES/ NCOES); it is individual skill development through mission-relevant problem-solving that enables leaders to develop mastery, competence in subordinates, and the confidence to adapt to changing mission conditions.

The ARC course, executed by 3d Squadron, 16th Cavalry cadre, teaches core recon skills (enhanced by new technical tools and tactical techniques) using an approach that develops individual leader attributes (particularly initiative, account-

student's confidence, accountability, and thought processes. The tactics chosen by students, in various situations, provide insight into the student's problemsolving abilities and level of judgment (a combination of knowledge and experience). The communication of orders, or reports, and the application of specific recon techniques selected by students provide insight into their competence. The after-action review process, self- and peer assessments, and cadre counseling all instill a sense of student self-awareness and personal accountability. The observable behaviors related to a student's performance against course outcomes are clear, regardless of the student's specific duty assignment for the day.

The ARC cadre represents senior members of the recon profession, who share

hard-won experience and expertise with junior members of the profession, who will soon have the responsibility for training and leading soldiers in combat. In short, the ARC cadre teaches students to:

- Understand the commander's intent.
- Assess the conditions.
- Select tactical methods appropriate to their assessment of the conditions.
- Overcome obstacles and exploit opportunities.
- Demonstrate competence and confidence during execution.
- Accomplish their mission.

Each day builds on skills, knowledge, and lessons learned developed during the previous day.

Current and Future Capabilities

Under current resourcing, the ARC encompasses a 27-day training cycle. Training 6 days a week, students are assigned to the course for approximately 30 days. A total of eight resident courses are scheduled per year at Fort Knox, for an annual output of approximately 250 students. Classes are operated at an optimal level of 30 to 36 students per class, but can be resourced for up to 45 students per class as necessary. This optimal level ensures that student-to-instructor ratio is maintained at approximately one instructor to six students, with many events having one instructor to three students.

The course's goal is to have a 50/50 mix of NCO/officer in each course; however, there are a variety of factors that influence this dynamic. The course is open to Active and Reserve Component U.S. Army and Marine Corps NCOs and commissioned officers who have successfully completed required courses (BNCOC/BOLC III) in armor, infantry, engineer, aviation, military intelligence, and field artillery branches. The ARC is also open to international allied forces and additional service branches as space is available. Dates and registration requirements are available at the Army Training Requirements and Resources System (ATRRS) website, *www.atrrs.army.mil*, school code: 171; ARC course code: 2E-F137/521-F2.

As a part of the Armor Center's relocation to Fort Benning's Maneuver Center of Excellence, the ARC is scheduled to depart Fort Knox in July 2011 and resume classes by September 2011. This move will mark a significant growth in the course's capabilities; by 2011, the ARC will serve more than 500 students per year with another course growth estimated at more than 850 students by FY12. These projections are based on forecasted de-

mands from the force and assessments conducted by TRADOC in 2008.

ARC Contact Information

The course's administrative offices are currently located in Building 1726, Phantom Division Road, Fort Knox. Additional information about the course can be obtained online at *www.knox.army.mil/school/16cav/slc1.asp,* which is a secure AKO site and offers information on reporting requirements, class schedules, mobile training teams, and resources related to reconnaissance operations and training. Any additional inquiries may be addressed to the ARC senior instructor at (502) 624-6199 (DSN 464); or the ARC course manager at (502) 624-3023.

As part of a greater coalition force, the U.S Army approaches its 9th year of operations in support of Operation Enduring Freedom, and more than 5 years of operations in support of Operation Iraqi Freedom. The conflicts of Hezbollah and Israel in 2006, and Russia and Georgia in 2008, provide depictions of the conditions that our tactical leaders may very well continue to face in future operations.

The ARC prepares recon leaders for full-spectrum operations in the modular force through developing fundamental skills and leader qualities that build on the foundations set by the officer and NCO education systems. Leaders who are well grounded in these critical fundamentals and attributes can adapt quickly to changing operational circumstances. It is these leaders who contribute effectively to unit training and combat operations, regardless of the particular type of BCT or mission along the spectrum of conflict.

Notes

[1]Brigadier General Robert Brown, "The Agile Leader Mind Set: Leveraging the Power of Modularity," *Military Review*, July-August 2007, pp. 32-44.

[2]Headquarters, Department of the Army (HQDA), U.S. Army Field Manual (FM) 7-0, *Training for Full-Spectrum Operations*, U.S. Government Printing Office (GPO), Washington, DC, 12 December 2008.

[3]General Martin Dempsey, "TRADOC Focuses on Leader Development," *Army News*, 16 April 2009, available on line at *http://www.army.mil/-news/2009/04/16/19773-tradoc-focuses-on-leader-development,* accessed 8 May 2009.

[4]The application of outcomes-based training (now outcomes-based training and education) principles used in the Army Reconnaissance Course is drawn from application by the U.S. Army's Asymmetric Warfare Group (AWG). The AWG has provided advice and support in transforming instructional methods at Fort Jackson, Fort Benning, Fort Sill, Fort Hood, Fort Campbell, Fort Bragg, and the U.S. Military Academy. The AWG has also hosted outcomes-based training workshops and conferences attended by commanders, instructors, and training developers across the Army. The ARC design also drew heavily on work done by Major (Retired) Don Vandergriff, whose adaptive learning model (ALM) principles for effective teaching and training are incorporated into the delivery model.

[5]FM 7-0, *Training for Full-Spectrum Operations.*

[6]HQDA, FM 3-20.98, *Reconnaissance and Scout Platoon*, GPO, Washington, DC, February 2009; and HQDA, FM 3-20.971, *Reconnaissance Troop*, GPO, Washington, DC, February 2009.

[7]Robert S. Cameron, PhD, "To Fight or Not to Fight? Organizational and Doctrinal Trends in Mounted Maneuver Reconnaissance from the Interwar Years to Operation Iraqi Freedom," manuscript, publication pending, U.S. Army Armor Center, 2009, Chapter 9, pp 43-44.

[8]HQDA, FM 3-20.98.

[9]HQDA, FM 3-20.98 and FM 3-20.971.

[10]HQDA, FM 3-20.96, *Reconnaissance Squadron*, GPO, Washington, DC, 20 September 2006.

[11]HQDA, FM 3-20.96, *Reconnaissance Squadron* (Revised edition), GPO, Washington, DC, TBP, 2010.

[12]General Martin Dempsey, *Small Wars Journal*, "Blog," posted by *SWJ* editors on 6 March 2009, available online at *http://smallwarsjournal.com/blog/2009/03/on-war-modifiers,* accessed on 11 May 2009.

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IED Defeat Gated Training Strategy:
A Holistic Approach to Preparing Units and Soldiers for Combat

by Colonel Kenneth J. Crawford

Warfighters and leaders across the Army often face the same challenge as they create and execute directed mission essential training list (DMETL) training. Once deployment orders are received, interests quickly adjust to the future operating environment and the threats therein. The most common and lethal threat experienced on today's battlefield is the improvised explosive device (IED). These deadly weapons consist of various types and configurations of explosive, munition, trigger, arming, and firing devices. However, there is one constant — it takes an enemy element to design, finance, manufacture, transport, emplace, arm, and (sometimes) detonate this device.

The general purpose of this article is to provide leaders and resource providers with a holistic and practical approach to prepare and train soldiers and units for combat. Specifically, it is intended to provide a methodical approach along the three lines of operation laid out by Joint IED Defeat Organization (JIED-DO), which call for defeating the device, attacking the network, and training the force.[1]

The readily available and supporting Joint Center of Excellence (JCOE) supports warfighter training by "validating and propagating IED defeat (IEDD) tactics, using tactics, techniques, and procedures (TTP) and lessons learned from theater."[2] The primary outlet for this expertise is found at the Army's combat training centers (CTCs), which provide units with a wealth of experience and resources in a hyper-realistic training environment. The challenge is leveling this quality of training experience across the Army, at home and mobilization stations, for all deploying Active Duty and Reserve forces.

Resourcing, Providing Expertise, and Relevant Training

A systematic approach to providing soldiers and units with the quality of training they deserve is to harness installation resources, such as facilities, ranges, and training aids, devices, simulators, and simulations (TADSS); and access the expertise of specific organizations, such as JIEDDO, Asymmetric Warfare Group (AWG), Training and Doctrine Command's (TRADOC's) IEDD integrated capabilities development team (ICDT), and U.S. Army Forces Command's (FORSCOM's) IEDD integration cells (I2C), in a gated training strategy (GTS) akin to how we conduct Bradley and tank gunnery tables. Figure 1 highlights the interrelated resource providers for home station training.

The solution is not simple; it requires vigilance in maintaining relevance as quickly as our tactical environments and enemy TTP change. Every unit leader's intent is to develop and resource

Environments where IEDs are encountered range from rural to inner-city. Knowing local residents is as important as honing skills, battle drills, and TTP.

Spheres of IEDD Enablers and Connectivity

TRA
Prioritization
Ranges, TADSS
Integration
Scenarios
MTTs
TSPs
110+ MTTs
Non-BCT
CTE O/Cs

Multiple organizations across the Army and joint communities enable quality training through resources, opportunities, capabilities, expertise, program development, and systems. Each of them focus on providing units and soldiers the expertise, skills, and knowledge to accomplish their missions in combat.

Legend
——— Direct Support
·········· General Support

"Attack the Network – Defeat the Device – Train the Force"

Figure 1

the most realistic training that will best prepare soldiers for what they may experience "downrange." Rather than complicating resource requirements, the IEDD community must enable the chain of command, which is ultimately responsible for preparing soldiers and units for deployment (inherent within senior commanders' training and readiness authority). The cascading complexity of efficiently coordinating the resources for a senior commander requires a dedicated and focused effort on providing support to all units training at home station. Essentially, this is commanders' business and they must have the ability to flex resources to meet their common challenge, which is the absence of a standard, relevant, and current approach to training IEDD at individual through collective levels.

Structuring and Planning the Gated Training Strategy

Structuring "a way" to overcome this challenge through live-virtual-constructive (LVC) training with a "CTC-like" experience at home sta-

Required Tasks by Deployment Category

CAT 1 — Contingency Operating Base (COB)/Forward Operating Base (FOB) Units — *Units that would rarely, if ever, travel off a COB/FOB*

e.g., Theater Support: Kuwait, Qatar, Bahrain, etc.

Individual Soldier Tasks (60 tasks)
Complete Army Warrior Tasks (32 tasks)
Qualify with assigned weapon
Complete Basic First Aid (11 tasks)
Conduct HMMWV Rollover Training
Complete Hot and Cold Weather Training
Conduct Desert Environment Training
Complete Mine Awareness Training
Complete Level 1 Antiterrorism Awareness Tng
Complete Regulatory Briefings (General Orders, OPSEC/SAEDA, Equal Opportunity, Prevent Sexual Harassment/Assault, DA Fratricide Policy, Army Values and Ethics
Identify Combat Stress and Suicide Prevention (incl Battlemind, MTBI, PTSD)
Conduct Personnel Recovery Training
Conduct Law of War Training
Complete Rules of Engagement Training
Complete Rules for Use of Force (RUF) Tng
Complete Biometrics Training
Complete Casualty and MEDEVAC
Complete Trafficking in Persons Brief
Complete Media Awareness Training
Complete Country Orientation Brief
Complete Basic Language/Culture Training

Individual Leader Tasks
Complete Theater Briefing (Military, Culture, Economic, Religious, Political)
Complete Level 2 Antiterrorism Awareness Tng
Conduct Casualty and MEDEVAC
Complete Application and Uses of Biometrics Tng
Incorporate Personnel Recovery Planning
Complete Identify/Mitigate Combat Stress
Complete Suicide Prevention Brief
Supervise Proper Field Sanitation
Individual IED Defeat Leader Tasks
Utilize an Interpreter

Collective Tasks
Execute Army Warrior Training Battle Drills (12 tasks)
Execute Culminating Training Event

CAT 2 — COB/FOB Units w/Travel Off Base (* Includes All CAT 1 Tasks)

e.g., Lt/Med Trk Co, HOA, GTMO, CA/PSYOP, Postal, CSH, Det Ops — *Units that will or potentially will travel for short duration off a COB/FOB*

Additional Individual Soldier Tasks
Expanded IEDD Training
Identify Visual Indicators of an IED
React to a Possible IED
React to an IED Attack or Vehicle-borne IED
React to an IED initiated Chemical Attack
Prepare for IED Threats Prior to Movement
Employ Manpack and Vehicular-mounted Electronic Warfare Device
Perform a 9-line UXO/IED Explosive Hazard Spot Report
Plan for IED Threats

Additional Individual Leader Tasks
Conduct Call for Fire
Supervise Convoy Operations
Complete Media Engagement Training
Supervise Traffic Control Points
Supervise Handling of Enemy Personnel and Equip
Conduct PCCs/PCIs of Combat Patrols
Supervise Application of ROE/Graduated Response

Additional Collective Tasks
Conduct Live Fire Exercises
Execute Convoy Operations (incl Crew Tng)
Complete IEDD Collective Tasks (11 tasks)
Maintain Base Camp Defense and Security
Execute Culminating Training Event

CAT 3 — Units Conducting Mission Off COB/FOB (* Includes All CAT 1 and 2 Tasks)

e.g., SECFOR, PRT, ANA, Lt/Med Trk Co (Self Secure), Engr, Rte Clr, MP PTT — *Units that will travel and conduct majority of mission off a COB/FOB*

Additional Individual Leader Tasks
Perform Negotiations
Plan and Conduct Urban Operations (OIF)
Plan and Conduct Mountainous Operations (OEF)
Conduct Crowd Control

Additional Collective Tasks
Conduct Live Fire Exercises
Coordinate with Coalition Forces
Execute Culminating Training Event

CAT 4 — Maneuver Units   (* Includes All CAT 1 , 2, and 3 Tasks) — *Maneuver units with an AO, newly formed units, units on a constrained deploy timeline*

e.g., BCT, COIN

Additional Individual Leader Tasks
IEDD Training — Plan for IED Threats
Senior Leader Orientation Training

Additional Collective Tasks
Nonlethal Weapons Capabilities Training
Execute Culminating Training Event

FORSCOM SWA TRAINING GUIDANCE DATED 172035ZNOV08

Figure 2

tion enables leaders and units to hone their skills, battle drills, and TTP prior to certification and deployment. In essence, they will arrive at a CTC or their deployed destination with a heightened level of competency and ability. The GTS is not a catch-all approach for training on all pre-deployment tasks, but it does focus on IEDD and supporting or interrelated tactical tasks. Given the high probability that the IED will remain a weapon of choice for our enemy and adversaries in future conflicts, our IEDD training must be adaptive, structured, and holistic.

Soldiers are at risk of encountering IEDs while deployed, and the probability of encountering an IED varies depending on the uni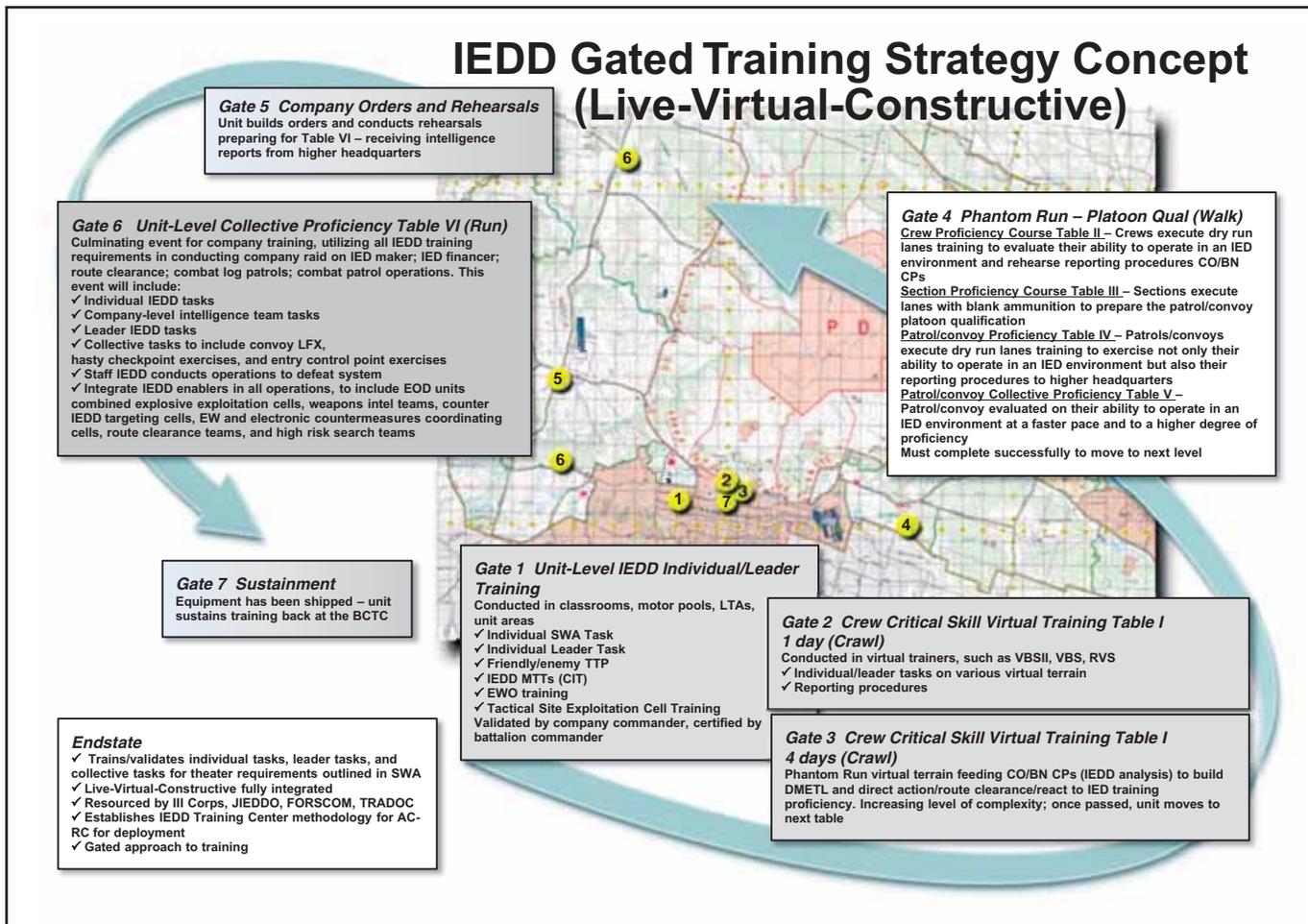que operational environment. To effectively synchronize IEDD GTS, we must dovetail the hierarchy of training requirements and prioritize competing demands for resources with the training tasks to the four categories articulated in FORSCOM's Southwest Asia Training Guidance.[3] The GTS focuses the specific IEDD individual, individual leader, and collective training tasks (outlined in bold boxes in Figure 2) and builds on each training experience, culminating in the unit's ability to systematically defeat the device and attack the network. The construct of the IEDD GTS takes into account the following considerations:

Adaptable and tailorable training objectives. The GTS must be "scalable" to meet the desired training objectives from platoon to brigade levels. The strategy must have the ability to be tailored to a unit's mission and experience level. Commanders must tailor the concept to fit current unit training levels, espe-

cially for a combat-experienced force; the start point for training may not always be the "crawl" stage. As units prepare for the next higher level's training event, they must prepare accordingly. As units prepare for major combat operations (MCO) gunnery, a crew is expected to execute specific tasks before operating as part of a section or platoon; platoons must master specific tasks before executing company-level operations; companies and battalions must effectively maneuver and mass firepower to support battalion- and brigade-level operations, and so on. The nesting of IEDD GTS is similar with the underlying objectives of defeating the device and maneuvering on and attacking the network.

Current and relevant training products. Training, enemy and friendly TTP, available TADSS, terrain/environment, and systems employed must be relevant and current. Ideally, we must, whenever possible, train with and on the same systems and platforms that soldiers will operate to reduce the initial risks associated with learning downrange. It is absolutely necessary to prioritize the fielding of our platforms and systems to those "in the fight" first. When training effectively on "like" systems, we have the ability to create surrogates, using mock-ups and virtual platforms, to achieve the desired effect(s) until we field the actual systems at home stations.

Doctrine and knowledge management. We must ensure our doctrine and knowledge management remain relevant, current, adaptive, and dynamic to the changing threat abroad. JIEDDO

IEDD Gated Training Strategy Concept (Live-Virtual-Constructive)

Gate 5 Company Orders and Rehearsals
Unit builds orders and conducts rehearsals preparing for Table VI – receiving intelligence reports from higher headquarters

Gate 6   Unit-Level Collective Proficiency Table VI (Run)
Culminating event for company training, utilizing all IEDD training requirements in conducting company raid on IED maker; IED financer; route clearance; combat log patrols; combat patrol operations. This event will include:
✓ Individual IEDD tasks
✓ Company-level intelligence team tasks
✓ Leader IEDD tasks
✓ Collective tasks to include convoy LFX, hasty checkpoint exercises, and entry control point exercises
✓ Staff IEDD conducts operations to defeat system
✓ Integrate IEDD enablers in all operations, to include EOD units combined explosive exploitation cells, weapons intel teams, counter IEDD targeting cells, EW and electronic countermeasures coordinating cells, route clearance teams, and high risk search teams

Gate 4 Phantom Run – Platoon Qual (Walk)
<u>Crew Proficiency Course Table II</u> – Crews execute dry run lanes training to evaluate their ability to operate in an IED environment and rehearse reporting procedures CO/BN CPs
<u>Section Proficiency Course Table III</u> – Sections execute lanes with blank ammunition to prepare the patrol/convoy platoon qualification
<u>Patrol/convoy Proficiency Table IV</u> – Patrols/convoys execute dry run lanes training to exercise not only their ability to operate in an IED environment but also their reporting procedures to higher headquarters
<u>Patrol/convoy Collective Proficiency Table V</u> – Patrol/convoy evaluated on their ability to operate in an IED environment at a faster pace and to a higher degree of proficiency
Must complete successfully to move to next level

Gate 7 Sustainment
Equipment has been shipped – unit sustains training back at the BCTC

Gate 1 Unit-Level IEDD Individual/Leader Training
Conducted in classrooms, motor pools, LTAs, unit areas
✓ Individual SWA Task
✓ Individual Leader Task
✓ Friendly/enemy TTP
✓ IEDD MTTs (CIT)
✓ EWO training
✓ Tactical Site Exploitation Cell Training
Validated by company commander, certified by battalion commander

Gate 2 Crew Critical Skill Virtual Training Table I 1 day (Crawl)
Conducted in virtual trainers, such as VBSII, VBS, RVS
✓ Individual/leader tasks on various virtual terrain
✓ Reporting procedures

Endstate
✓ Trains/validates individual tasks, leader tasks, and collective tasks for theater requirements outlined in SWA
✓ Live-Virtual-Constructive fully integrated
✓ Resourced by III Corps, JIEDDO, FORSCOM, TRADOC
✓ Establishes IEDD Training Center methodology for AC-RC for deployment
✓ Gated approach to training

Gate 3 Crew Critical Skill Virtual Training Table I 4 days (Crawl)
Phantom Run virtual terrain feeding CO/BN CPs (IEDD analysis) to build DMETL and direct action/route clearance/react to IED training proficiency. Increasing level of complexity; once passed, unit moves to next table

Figure 3

provides outstanding references and resources for LVC training applications through the Knowledge and Information Fusion Exchange (KnIFE). The primary purpose of KnIFE "is to exchange information, consolidate best practices, and respond to requests for information (RFI) related to the asymmetric application of TTP by both enemy and friendly forces."[4] The KnIFE website provides leaders and units with invaluable information to enable quality training. A significant challenge is keeping our doctrine current. Our existing doctrine is a reference that we must expand into our digital knowledge management databases to allow the Army to maintain currency until the release of the next printed publication revision. The constantly changing conditions and operating environments mandate a requirement to have both a baseline (printed) reference and an individual dynamic online database of information that maintains relevance for the warfighter's training.

Hyper-realistic training. We must provide and resource the most hyper-realistic training available to increase soldiers' training experience by immersing them in an environment as closely replicated as possible to the realistic environment in which they will operate. The structures, civilians, smells, and sounds experienced by individual soldiers and units serve as the means to help "inoculate" and prepare them to instinctively respond under any condition while deployed.

IEDD Gunnery — Synthesizing Training and Effects

The IEDD GTS is a holistic approach to training, from the individual soldier to brigade-sized units, on how to defeat the device and attack the network. The overarching intent is to ensure

units understand and can effectively analyze the complexity of the IEDD fight. The IEDD GTS provides this methodology by creating "gates" where individuals and units successfully accomplish specific training objectives to standard before moving to the next higher and more complex gate. The structure of the IEDD GTS includes tables similar to Bradley and tank gunnery and focuses on specific unit levels.

Gate one establishes a baseline to ensure every individual/crew/squad successfully executes common individual and leader training tasks and possesses a common knowledge frame of reference based on FORSCOM training guidance, doctrine, unit standard operating procedures (SOP), and current enemy and friendly TTP. KnIFE's training courses and seminars provide units with a plethora of additional resources, which can enhance the capabilities of soldiers who attend courses, participate in distance learning, or use training support packages, which can be downloaded from the website. Similar to Bradley and tank gunnery skills tests, commanders certify that individuals and crews are ready to begin the LVC training tables outlined in the IEDD GTS before allowing crews to move to Table I (crew skills virtual training).

Table I includes gates two and three, which build on previously gained experiences and knowledge. Unit training is applied and refined through virtual training using simulators and simulations to validate the TTP that will be used in the unit's SOP for tactical operations. The focus of Table I ensures crews effectively perform individual and leader tasks in virtual terrain, provide proper contact reports, and successfully execute crew battle drills

such as rollover drills using high-explosive antitank (HEAT) rounds.

Gate two is executed in generic virtual terrain and includes graduated skill levels. Once the crew successfully meets performance standards, they pass on to the second half of Table I, which provides a significantly more complex and realistic training experience for the crew and unit. The simulated terrain replicates actual terrain they will encounter in Tables II through V. At this point, the scenario provides a comprehensive experience from the individual crew level up to battalion and brigade commander and staff levels. This takes advantage of how units manage, report, synthesize, and analyze reports and information for future decisions and action. Every report from Table I to VI (collective proficiency) is meaningful and eventually leads to the ultimate objective of successfully "attacking the network" and ensuring a holistic training experience.

Platoons normally serve at the lowest level and are called on to execute combat patrols in a combat environment; hence, Tables II through V build on platoon-level proficiency in live scenarios with a crawl-walk-run approach. Crews, sections, and platoons execute their mission and focus on their ability to defeat the effects of IEDs and submit effective reports as staffs conduct the analysis and build actionable intelligence for direct action. Platoon leaders will execute one, or a series of, missions similar to what they are likely to experience while deployed. These missions may include navigation (mounted and dismounted), tactical questioning, react to contact, establishing traffic control points, crowd control, detainee operations, and other missions depending on the training objective(s) selected from the FORSCOM training guidance tasks.

Crews, sections, and platoons encounter a hyper-realistic environment while responding to civilian role players, enemy elements, urban structures, and other battlefield effects such as replicated indirect and direct fire, IEDs, munitions, homemade explosives, and sounds. Once platoons meet the training standards of Table V (gate four) and the battalion or brigade establishes the IED network hierarchy and probable location(s), they issue orders to the company to prepare to execute kinetic operations. Additional complexities and considerations must be included based on the theater of operations and established rules of engagement (ROE) or status of forces agreement (SFA), which may effect planning and action as it could be a U.S., combined, or host nation forces-led operation.

Table VI (gates five and six) focuses on company-level planning, rehearsals, operations, and mission execution. Once all the platoons of a company successfully pass through the fourth gate, the company receives its mission and begins troop leading procedures (TLP) at its forward operating base. On order, the company executes a direct-action mission to destroy or defeat the network. Depending on the available training terrain, Table VI could potentially culminate in a combined-arms, live-fire exercise at a multipurpose range complex where battalions and brigades could integrate combat multiplier resources such as unmanned aerial vehicles, precision fires, and attack aviation.

As units ship equipment and near deployment date, the availability and application of simulations help units sustain their skill sets and capabilities. Gate seven focuses on sustaining these skills and enables training for soldiers who arrive after the CTC rotation and equipment shipping date, which is normally 60 days before the unit's scheduled latest arrival date (LAD). These same soldiers reap the benefits of the unit's training and quickly learn prior to their deployment "what right looks like" as they learn their unit's TTP and SOP firsthand.

Figure 3 is an example of the IEDD GTS being developed at Fort Hood. The intent is for all units to have access to world-class home station IEDD training facilities, enabling them to successfully accomplish desired DMETL tasks and deploy with validated TTP and SOP. Due to the shortened dwell times and the fact not every type of unit can deploy to a CTC, these resources and training strategy enable units to attain and sustain readiness at a much quicker rate at home station. This training can also be integrated as part of a battalion or brigade combat team's gunnery scheme of maneuver with minimal effort and resource overhead. The commonality of training tasks and threat allows the Army to adopt the IEDD GTS concept and apply it across every installation for Active Duty and Reserve training.

> *"The intent is for all units to have access to world-class home station IEDD training facilities, enabling them to successfully accomplish desired DMETL tasks and deploy with validated TTP and SOP. Due to the shortened dwell times and the fact not every type of unit can deploy to a CTC, these resources and training strategy enable units to attain and sustain readiness at a much quicker rate at home station."*

The Desired Effect

The IEDD GTS allows units to build on realistic training scenarios to defeat IEDs as they execute missions and provide reports to battalion and brigade tactical operations centers in virtual and live environments. Staffs synthesize the information gained from the reports into actionable intelligence and build target decks, as well as develop and direct missions, while commanders decide how and when to attack the network just as they will during deployment. The outcome, or desired training effect, is a unit fully trained to operate, adapt, and decisively act in an extremely lethal environment with positive results. They deploy well trained with the ability to defeat IEDs and successfully attack the network!

Notes

[1]Joint IED Defeat Organization (JIEDDO), "Train the Force," available online at *https://www.jieddo.dod.mil/CIEDTRAINING/CIEDTRAINHOME.ASPX,* accessed 28 April 2009.

[2]JIEDDO, "Joint Center of Excellence (JCOE), available online at *https://www.jieddo.dod.mil/CIEDTRAINING/CIEDTRAINHOME.ASPX,* accessed 28 April 2009.

[3]U.S. Army Forces Command, "Training Guidance for Follow-on Forces Deploying in Support of Operation Iraqi Freedom (OIF), Change 9, with Administrative Corrections," 16 May 2007. On 24 September 2007, FORSCOM updated this document and published "FORSCOM Training Guidance for Follow-on Forces Deploying in Support of Operations in Southwest Asia (SWA)," DTG 172053ZNov08, which applies to units deploying after 1 December 2007, Change 2, updated 11 February 2009.

[4]U.S. Joint Forces Command, Joint Center for Operational Analysis, Knowledge and Information Fusion Exchange (KnIFE), "The KnIFE Mission," available online at *https://knife.jfcom.mil/Pages/KnIFEPublic.aspx,* accessed on 22 February 2009.

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Highlighting the Most Significant Work of
Volume III (1865 to 1914) of the Multivolume Collection

by Commander Youssef Aboul-Enein, U.S. Navy

Foreword

I am pleased to introduce the third installment of this exposé. The eight-volume work by Iraqi sociologist Ali al-Wardi is a definitive history of modern Iraq from the arrival of the Ottomans in the 16th century to the creation of the modern Iraqi state after World War I. This third volume covers four decades of Iraq's history from 1865 to 1914, a time when modern conveniences, such as tele-graph, steam riverboats, postal service, the printing press, and modern schools were introduced to Iraq by the Ottomans and the British Indian Viceroy. With these changes came ideas, such as Arab nationalist movements, political changes, constitutionalism, the rise of bureaucrats, and the subjugation of tribes, using the tele-graph to move Ottoman forces rapidly to areas that required pac-ification. Wardi's work is known among experienced Middle East foreign area officers proficient in reading the Arabic language.

Russo-Turkish War
2 October 1877, Fight near Ivanovo Chiflik

Iraq's Social, Political, and Military History:
of Dr. Ali al-Wardi

I have had the pleasure of discussing these volumes not only with Commander Aboul-Enein, but with Brigadier General H.R. McMaster and special operations field commanders deployed to Iraq. Commander Aboul-Enein has done a great service by highlighting Wardi's work, which ranks among those Arabic books of military significance. I commend ARMOR *for providing a forum to help U.S. forces understand the nuances and complexities of Iraq. Wardi's book is not only known by our experienced Middle East foreign area officers, but it is also known by our adversaries, who use its history to stoke old sectarian grievances in the 21st century, by taking fragments of Iraqi history out of context. We must not be blind to the existence of Arabic works, but instead study them with the same tenacity as we used to examine Russian materials during the Cold War.*

Gary Greco, Chief, Office of Intelligence Operations,
Joint Intelligence Task Force for Combating Terrorism
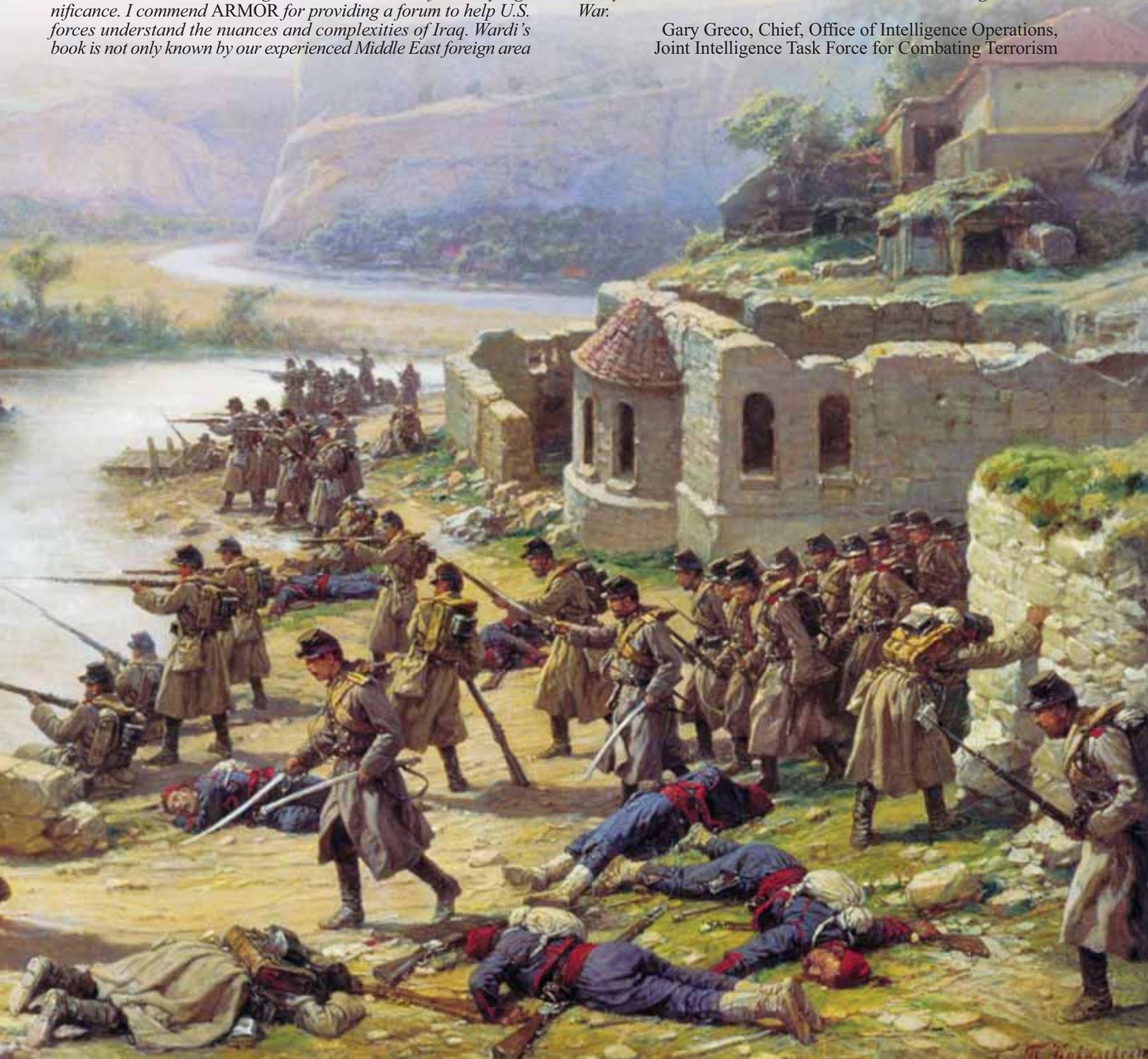
Above, Midhat Pasha, Ottoman governor of Baghdad who introduced many modern conveniences.

At left, Baghdad tramway introduced by Midhat Pasha.

"…breakthroughs, particularly in the realm of communication, caused Iraqi society to become less isolated. The Ottoman Vali (governor) of Baghdad, Midhat Pasha, introduced hospitals, schools, newspapers, tramway (public transportation), and paved roads."

The first two volumes of Ali Wardi's *Social Aspects of Iraqi Modern History* cover the arrival of the Ottomans in the 16th century and the start of the industrial age. Volume III takes readers from the industrial age to the outbreak of World War I. This era, from the 1850s to 1914, was a crucial period of change for Iraq as it became exposed to new social, political, and technological ideas. These changes were stimulated by the printing press, the opening of the Suez Canal in 1869, the steam engine, postal service, and the telegraph. These breakthroughs, particularly in the realm of communication, caused Iraqi society to become less isolated. The Ottoman Vali (governor) of Baghdad, Midhat Pasha, introduced hospitals, schools, newspapers, tramway (public transportation), and paved roads.

These new projects would have an economic and intellectual impact on Iraq. Agricultural subsistence intended only to feed tribes were replaced with large plantations designed to export Iraqi products such as dates. Industrial farming saw the introduction of rice processors, wheat harvesters, and motorized water pumps. Dozens of villages and hamlets grew into towns creating places such as Amara in 1861, Aziziyah in 1865, Ramadi in 1870, and Nasiriyah in 1870.

These changes also brought on the rise of the *Effendi*, or *Effendiah*, class (bureaucrats), a population of educated Arabs who graduated from Ottoman modern schools. Some of these bureaucrats became either Francophiles (lovers of French culture) or Anglophiles (lovers of British culture); they insisted on speaking Turkish among the Arabs and held tribesmen and farmers with disdain. These bureaucrats were masters at either easing or throwing obstacles to affect the commoner's business. The people of the Effendi class were educated consistent with western bureaucratic models and were placed in a sea of tradition, superstition, and tribalism. They spoke in terms of "reform," "oxygen," "microbes," and "evolution," terms utterly alien to Iraqis of the mid-19th century.

Egypt's Printing Press Shakes Iraq

A mid-19th-century renaissance blossomed in Egypt with the arrival of the printing press. Many intellectuals fled the oppressive atmosphere of Syria under the Ottomans and found a new intellectual awakening in the British Protectorate of Egypt. European revolutionary ideas of nationalism, the ideals of the French Revolution, and sciences were translated into Arabic and mass printed in Egypt. Magazines, books, and papers arrived by packet steamboat to Baghdad in the 1870s. The first to feel the threat of these new ideas of nationalism, secularism, and Darwinism were the Shiite, Sunni, Jewish, and Christian clergy of Iraq. Noman Alusi led the Islamic Reform Movement in Iraq, inspired by Egyptian modernist reform cleric, Muhammad Abduh (d. 1905). Darwinism was advocated by Shibl Shameil, who was joined by the Shiite cleric and Newtonian physics teacher, Haba al-Deen Sharistani. Sunni cleric, Sheikh Zahdawi, abandoned his clerical robes and joined the Effendi class of bureaucrats to continue his modernist education.

1877 Russo-Turkish War

Abdul-Hamid II, the Ottoman Sultan who reigned during most of this period, took the throne in 1876 and remained for 32 years. In 1877, the Russo-Turkish War broke out. The sultan appealed to the clergy to issue a fatwa (religious opinion), sanctioning all Muslims to fight, making this declaration in mosques throughout the empire. Furthermore, he requested they add "ghazi" (conqueror) to his title. The Ottoman Sultan and his religious advisors attempted to link the title "ghazi" to the saying of Prophet Muhammad, "He who prepares a *ghazi* (raid) in God's path, has already triumphed." However, Ottoman ground forces lost in the Caucasus and Balkans. The Russo-Turkish War was the first Ottoman conflict in which the Sultan had a telegraph link to the front and to his field commanders. This technology only worsened matters, as it eroded military initiative, leaving commanders to await word from Istanbul.

Russian forces made their way to Istanbul, but were pushed back by French and British naval forces aiding the Ottomans. The Russo-Turkish War, and the subsequent Treaty of San Stefano, would be a preview of Versailles and the carving up of Ottoman dominions after World War I. San Stefano would give Bulgaria its independence, Russia gained Armenia and the Port of Batu-

mi, and the Berlin Conference granted Britain the island of Cyprus, a strategic prize in the Eastern Mediterranean.

In 1882, with mounting debts racked by the Egyptian Khedive (Ottoman Viceroy), the British converted fiscal administration of Egypt to an outright Protectorate of the British Empire. Under these conditions, the Ottoman Sultan revived the Islamist trend citing that the British and Russians are the same infidel and began a systematic intellectual isolation from Western Europe.

In 1878, the Sultan abrogated the constitution and disbanded the *Majlis* (parliament). Abdul-Hamid, though hard-working, spent most of his efforts rooting out conspiracies and is reputed to have had 20,000 spies in Istanbul alone to uncover assassination plots and constitutionalists bent on eroding his authority. Censorship was rampant, there was mail tampering, and the printing press was limited; if three persons convened in a coffeehouse, they were immediately suspected of wrongdoing.

Sultan Abdul-Hamid II Plays the Islamist Card

Another event that characterized Sultan Abdul-Hamid II's reign was the Armenian massacres that started in 1894, leading to Armenian resistance strikes in 1896, including the seizure of hostages in Istanbul's Ottoman Bank. The retaliation of massacres lasted 3 days, which proved to galvanize Europe. This further caused Abdul-Hamid to retreat into Islamist politics under the theme of "Muslims of the World Unite!" He hoped to stoke Muslim uprisings in French and British possessions in Africa and India, as well as Russia and parts of Eastern Europe. Abdul-Hamid spoke in terms of leading a jihad against these crusaders. He invested heavily in the propagation of Sufism, printed Qurans, and opened religious schools. In Istanbul alone, 40,000 students attended these schools in one academic year alone. In 1886, Abdul-Hamid orchestrated an Islamist public relations campaign, distributing hairs of the Prophet Muhammad kept in the Topkapi Palace. Iraq received five hairs, distributed to the Sunni mosques of Abu Hanifah, Kilani, Kazimiyah, and the Shiite mosques of Karbala and Najaf. It was an event designed to bind the Iraqi people to the Ottoman Empire. The last Friday of Ramadan was set aside in Iraq to bring out the relic and was designed to energize Islamist feelings and incite it against the enemies of the empire.

"Contrary to his distaste for Europe, Abdul-Hamid seemed to favor Germany for its military training. When Kaiser Wilhelm II ascended the throne in 1889, he announced his friendship toward the Ottomans as a means of undermining the common enemy of Britain and France."

Another project designed to bind Ottoman subjects together in the Arab dominions was the Damascus to Medina railway. This rail system consisted of 900 miles of track that had logistics, communications, trade, and military applications. It would be built almost exclusively through personal donations and was marketed as a project for Muslim unity to bring them closer to the holy sanctuaries of Mecca and Medina. The line was completed in 1908.

Sultan Abdul-Hamid viewed European civilization as being poisoned and had a special hatred for the British. He saw the west as swallowing Muslim lands piece by piece and undermining his caliphate. Contrary to his distaste for Europe, Abdul-Hamid seemed to favor Germany for its military training. When Kaiser Wilhelm II ascended the throne in 1889, he announced his friendship toward the Ottomans as a means of undermining the common enemy of Britain and France.

In 1898, the Kaiser and his wife visited Abdul-Hamid in Istanbul in the first official visit of a European monarch. When the Kaiser visited Jerusalem, he wore Arab dress, took the persona of a Christian knight and friend of Islam, and declared that 300 million Muslims could rest assured they had a friend in Germany. The German monarch laid a wreath at the tomb of Saladin and left a gift of a large silver set of worry beads, a symbol of remembrance to God. The German propaganda machine touted the friendship between the Kaiser and the Abdul-Hamid to that between Holy Roman Emperor Charlemagne and Abbasid Sultan Haroon al-Rashid who conducted a long diplomatic correspondence in the late 8th century CE.

The Ottoman press followed the Kaiser's travels; some felt he had truly embraced Islam, calling him "Hajj Abdullah William." The closeness between Germany and the Ottoman Empire worried France, Russia, and Britain. Some of these concerns can even be seen in the debates of the British Parliament under the ministry of Prime Minister Lord Salisbury. The British countered
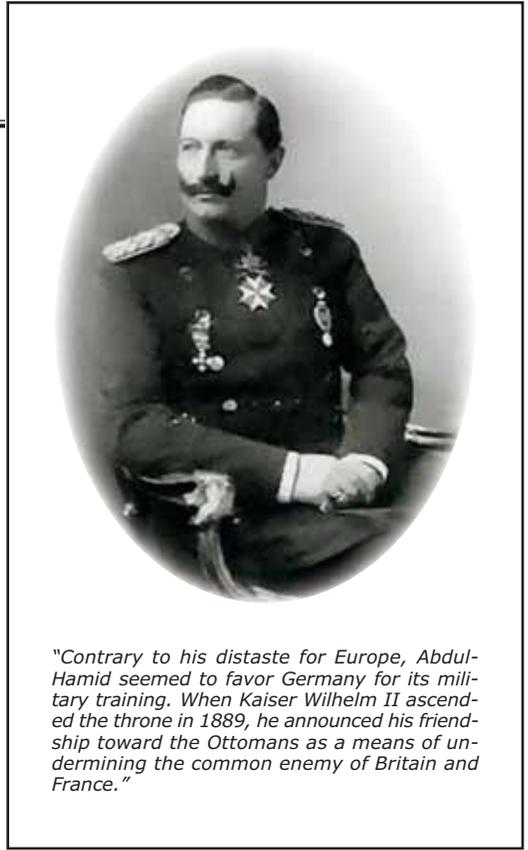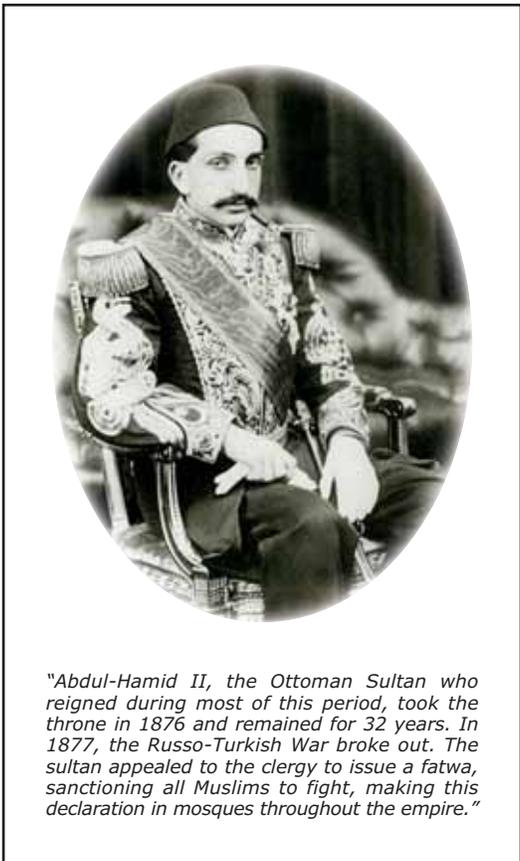
"Abdul-Hamid II, the Ottoman Sultan who reigned during most of this period, took the throne in 1876 and remained for 32 years. In 1877, the Russo-Turkish War broke out. The sultan appealed to the clergy to issue a fatwa, sanctioning all Muslims to fight, making this declaration in mosques throughout the empire."

by extending support to ethnic, constitutional, and nationalist movements in Egypt, the Levant, and Iraq. However, when this was started, the Ottoman Sultan was in the apex of popularity in Iraq, being known as "Protector of the Faithful." Wardi describes how Iraqi parents would open a story to their children saying, "Once upon a time and God grant victory to the Sultan, faith, and nation (*deen wal dawla*)."

Abdul-Hamid wrapped the fate of Islam with the fate of the empire and his reign. In 1893, he ordered his Vali, Hassan Pasha, to select five representatives as wandering clerics, who would travel throughout Iraq, preaching, adjudicating disputes, and further binding the Iraqis to the state and their religion. Prayers to the Sultan were offered in mosques and emphasis was placed on Quranic verses, commanding obeisance to God, the Prophet, and those in charge of Muslim affairs from among Muslims.

First Elections and Tribal Revolt

In 1877, under Ottoman Wali of Baghdad, Abdel Rahman Pasha, Iraq held its first election to select representatives to send to Istanbul's newly created *Majlis al-Mabutheen* (chamber of empire designees). Three representatives from Baghdad looked after and articulated the interests of Iraq before the Sultan, his ministers, and the Ottoman central bureaucracy. Regrettably, they spent only one month in the position before the Sultan abrogated the new Ottoman constitution.

From 1879 to 1880, a great tribal revolt occurred in Iraq, led by Mansur (Pasha) al-Sadoun. The participants of the Sadoun Revolt declared themselves an independent emirate, stretching from the outskirts of Baghdad to Basra. Under Sadoun, 10,000 tribal forces were suppressed by 2,000 Ottoman regulars, equipped with field artillery under command of Ottoman General Taqi al-Deen

Pasha. Of note, the tribal forces used donkeys to kick up sand in the battlefield to mask their deployment. They also used these pack animals, stuffing their ears with cotton, to march toward the cannon to receive the first fire against the Ottomans. These tactics, although interesting, were useless against the disciplined German-trained Ottoman forces. In 1881, the Sadoun tribal emirate was suppressed.

In 1889, a serious Jewish pogrom occurred in Iraq when Chief Rabbi Abdullah Shumaikh died of cholera. The Jewish community received permission to bury the Rabbi at the nearby Prophet Ezra's Tomb, located 60 miles north of Basra. The population in the village of al-Uzair, where the tomb resides, refused to allow the burial. Moreover, the community was backed up by the Ottoman captain of the garrison. Violence broke out, leading to the earliest Jewish riot in Iraq.

Namiq Pasha (the Younger), Vali of Baghdad, in an attempt to unify the people, re-introduced the reforms of the previous Vali, Midhat Pasha, including:

- Girl's schools.
- Technical school.
- First music school.
- Hospitals equipped with imported European medicines and equipment.
- A carriage factory.
- Government buildings, some of which remain in use today.

The first major bridge over the Euphrates River was built in anticipation of the 1870 visit of the Persian Shah to Baghdad, which led to a series of bridges built over the Euphrates and Tigris until 1902.

Chaos in Basra

One of incessant problems of Ottoman governors included the pacification of tribes and dealing with breakdowns in civil authority. One unique problem of this period was piracy in the Shatt al-Arab waterway and marsh estuary at the mouth of the Euphrates in southern Iraq. These pirates used escape routes to Persia to evade Ottoman authority. Some of these brigands formed a tribal confederation and developed an autonomous emirate led by Sheikh Kazal, known as the Emir of Muhammara. The Ottomans used force, but also combined force by creating wedges between tribes to undermine confederacies and offering a combination of positions, bribes, and threats. An example of this was Sayed Taib bin Saeed, a Robin Hood figure in Iraq who the Ottomans fought and then offered amnesty, making him Mutasaraf of al-Hasa in Eastern Arabia. A *Mutasaraf w*as a designee of the Ottoman Vali. Accused of embezzlement, Taib bin Saeed was removed, but not returned to southern Iraq; instead, he was given a posting on the consultative council in Istanbul, representing the Basra area.

The lawlessness in Basra was not brought under control until the former Ottoman commander in chief of Iraq, Fakhri Pasha, was appointed Vali of Baghdad. He used a strategy of disaggregation. Using infantry regiments, supported by artillery batteries, he attacked the pirate's enclaves on the Iraqi side of the Shatt al-Arab. This
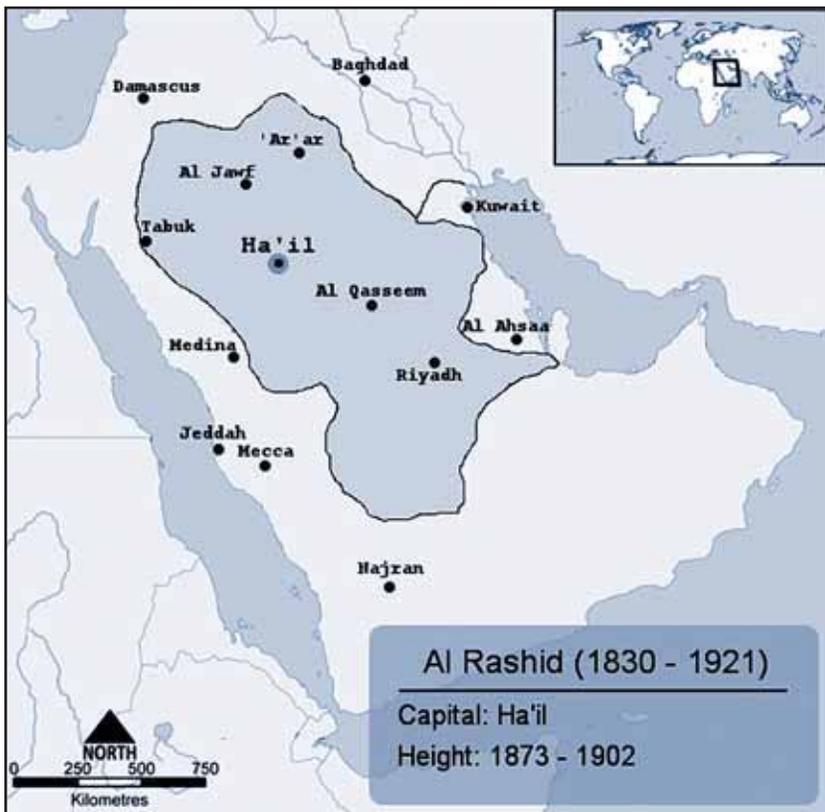
Map of the al-Rashid Tribal Confederacy at its height.

led to a diffusion of the pirates; some retreated to Persia, others sought asylum with the Emir of Muhammara. Fakhri Pasha used flattery and politeness to sternly demand a return of the brigands and thieves from the Emir of Muhammara, adding it would please him, as Vali of Baghdad, and the Sultan.

The Emir, feeling a sense of importance, credibility, and recognition from the Ottomans, was faced with a dilemma of whether to please the Sultan and be rewarded, or betray the pirates who supplied him with spoils. In the end, he betrayed the pirates and turned them over. Fakhri Pasha executed pirates, murderers, and rapists, placing their bodies in rice sacks and throwing them into the river. He used a combination of fear, negotiation, flattery, force, and a kaleidoscope of emotions to pacify Basra. Fakhri's inspiration not only arose from modern European tactics, but also historical figures from Iraq's past. One such figure was Ziyad ibn Ubey, who, in the 7th century, found Basra in a state of chaos and said to an innocent man facing execution, "I testify you are innocent, but your death benefits the community." It was a Hobbesian view that would characterize rule in Iraq.

The Rise of Abdul-Aziz al-Saud, the Creator of Modern Saudi Arabia

In the late 19th century, Abdul-Aziz al-Saud was spending his exile from his ancestral homeland of Central Arabia in Kuwait. The Machiavellian Emir of Kuwait, Mubarak al-Sabah, offered asylum to the al-Sauds in the hope he could use them as proxies in destabilizing central Arabia's tribal confederacies. The strongest of these confederacies was the al-Rashids, who had evicted the al-Sauds in the late 19th century.

In 1902, Abdul-Aziz departed Kuwait with several dozen fighters and began a three-decade effort, recapturing his ancestral capital, Riyadh, and then proceeding to craft what would become the Kingdom of Saudi Arabia. The early phase of this conflict saw the Ibn Sauds versus the Ibn Rashids. In 1904, the Ottomans backed the Ibn Rashids against the Ibn Sauds, in an ancient game of tribal balance of power. The southern Iraqi city of Samawah was transformed into an Ottoman military logistics base. Four Ottoman infantry regiments and desert mobile field artillery, commanded by General Shukri Pasha, fought with the Ibn Rashids against the Ibn Sauds. The Ibn Sauds, supported by fanatical ultra-Wahabi shock troops, known as the "Ikhwan," fought in what is now the Eastern Provinces of Saudi Arabia around the region of al-Qassim.

Shukri Pasha was killed during the military engagement, causing the Ottomans to reacquaint with desert guerrilla tactics. Ibn Saud's forces defeated Ibn Rashid and Ottoman forces, with thousands of decimated and emaciated forces trickling into Basra, after days of wandering the desert. The Ottomans responded to this challenge by sending two military expeditions: one into Qassim, along the Persian Gulf coast; the other into the Hejaz, along the Red Sea coast. Field Marshal Ahmed Faydi Pasha commanded eight infantry battalions, reinforced by two artillery batteries, which left Najaf in late 1904. When Ibn Saud learned of this force, he abandoned Qassim to avoid a direct confrontation with the modern Ottoman force.

After remaining in Qassim less than a year, Istanbul ordered Faydi Pasha and his military expedition to Yemen and transferred Qassim to his deputy. In 1906, Ibn Saud saw the Ottomans garrisoned in Qassim; however, the bulk of the forces were in Yemen and the Hijaz, and not providing forces to support the Ibn Rashids. Therefore, Ibn Saud sought battle with his archenemy. During this engagement, the Ibn Rashid chieftain was killed. A major center of gravity, wrapped up in the charisma of the tribal chief, led to the collapse of the Ibn Rashids. These circumstances laid open the Ibn Sauds to become the undisputed leaders of Central Arabia.

Ibn Saud sought to immediately negotiate with the Ottomans. The deal struck between the Ottomans and Ibn Saud would recognize Abdul-Aziz as Ottoman vassal of Hail, Qassim, and Riyadh, which was a swath of Arabia extending from central eastward to the Persian Gulf coast near present-day Dhahran. In return, Ottoman forces located in Qassim would evacuate, unmolested, to the garrisons of Medina and Iraq. Ibn Saud provided the camels and guides for the evacuation of Ottoman troops.

In Baghdad, aside from the problems of Ibn Saud, the Vali of Baghdad was Abdul-Wahab al-Albani Pasha (1904-1905). It was during this time that Sunni cleric, Mahmoud Shukri al-Alusi, was exiled from Iraq to Turkey for evangelizing Wahabism. The Sultan and his Valis were Sufis who considered the Wahabis a heretical cult that would destabilize Iraq's sects. Al-Albani Pasha's replacement was Abdul-Mejid Bey (1905-1906), whose rule would see the massacre of Persian pilgrims visiting Karbala.

Mirza Shirazi and the Influence of a Grand Ayatollah

Mirza Mohammad Hassan al-Shirazi became one of the most influential clerics during the reign of Ottoman Sultan Abdul-Hamid. Wardi does a marvelous job explaining the clerical debates that characterize the Shiite hierarchy; chiefly, the differences between Usuli and Akhbari views of Shiite Islam. The Akhbaris depended on the *akhbar* (reports) of Prophet Muhammad and the twelve Imams. The Usulis argued that the reports varied in degree of authenticity; therefore, only someone immersed full time in studying these reports could guide a Shiite to their true application. Akhbaris believed that the reports and the Quran contain all that is needed for an individual to lead a moral life without dependence on a clergy. The Akhbaris also believed that an individual could interpret these texts without taking the clerics opinion as the final word. One popular slogan in Shiism was "Akhbaris depended on *na'ql* (imitation) and Usulis on *a'ql* (rational analysis)."

By 1821, relations with Persia and the Ottomans improved and Najaf resumed its historical importance as the center of Shiite debate. Among the differences between Sunni and Shiite clergy was that Sunnis were government employees paid by the Ottoman bureaucracy, while Shiite clergy depended on the tithing of its flock. So Shiite clergy felt, and continue to feel, the economic privations of their flock and tended to advocate for their quality of life as it has a direct correlation to religious donations and taxes. Sunnis and Shiites view central government authority differently: for the Sunnis, the Sultan is the Commander of the Faithful; for the Shiites, he is not, and if they accept his oversight, he would be deputy to the twelfth Imam.

Mirza Shirazi was born in 1815 and educated in Isfahan in 1843, as well as in Najaf where he ministered to Shiites in Iraq. By 1864, he became one of four *Marjas* (Grand Ayatollah) considered as a candidate following the death of the leader of the Najaf Marjayah and most senior cleric, Marja Ansari. Failing to achieve the highest office of the Najaf clerical cluster, Shirazi migrated from Najaf to Samarra, a city of significance to both Shiites and Sunnis. He became locked in an ideological competition for converts with Sunni cleric, Sheikh Muhammad Saeed al-Naqshabandi. The Ottoman Sultan saw in Shirazi a potential problem with attempting to unify all of the empire's Muslim subjects around the person of the Sultan as Caliph. What elevated Shirazi's stature was the 1891 tobacco protest, an incident that would redefine Persia's national identity and lead to the downfall of the Qajar Persian Shahs.

The Qajar Persian Shah, Nasr al-Din, sold the Imperial Tobacco Company of London's (a British firm) entire tobacco concession, from growing to packaging, for £15,000 and 25 percent of the annual profits. Persians wrote to Marja Shirazi, asking him to intervene with the Shah. Shirazi communicated with the Qajar Persian consul in Baghdad. After failing to convince him of the unpopularity and injustice of the concession to British firms, he issued a fatwa, forbidding the use of the Tanbak Brand of Tobacco, the brand processed by British firms. Amazingly, Persian and Iraqi Shiites, within their communities, left opium addicts alone, looked the other way when alcohol was sold or consumed, but enforced the Tanbak ban. The fatwa of Shirazi was printed and distributed; it is estimated 100,000 fatwa pamphlets were distributed from Najaf to Persia. Mosques in Persia read the fatwa and expected followers to heed its warnings.

A backlash of the fatwa consisted of threats to westerners in Persia; many fled Teheran and others retreated into their legations. Rumors of a jihad fatwa were circulated, which had to be dispelled by Ayatollah Muhammad Hassan al-Ashtyani. As a token of thanks to Ashtyani, the Shah Nasr al-Din offered him a diamond ring; however, the cleric refused to accept the gift until the Shah cancelled the tobacco concession. The Shah complied in 1892, with British firms imposing a £500,000 indemnity.

Shirazi became the most popular cleric in Shiism and Shiites bestowed on him the title Imam al-Mujaddid (the re-newer of God's religion). His popularity would be tested in 1893, when a Persian pilgrim in Samarra attacked an Ottoman gendarme, Hassan bin Zaghir, of the Albu Malais Tribe. This escalated to altercations between Ottoman forces and Persians that digressed into overall Shiite versus Sunni violence. The British sent a river gunboat to calm the violence. Ayatollah Shirazi refused to meet with the British consul, sending word that this was a dispute between Muslims. The rift between Sunnis and Shiites was finally resolved with the intervention and negotiations between Ayatollah Shirazi and the Ottoman Vali of Baghdad, Hassan Pasha. Shirazi died in 1895, leaving Samarra to decline as a Shiite center, resulting in the Sunni conservative Naqshabandi order to ascend in Samarra. The Najaf clerical cluster competed for who would take Shirazi's place on the apex of Shiite leadership. Shiite leadership contenders were divided into factions as follows:

- Mirza Hassan Khalili was supported by the Qajar Persians;
- Sheikh Muhammad Taha Najafi was sponsored by the Iraqi Shiite Arab factions; and
- Hassan Mamaqani was supported by the Ottomans with the encouragement of Turkish Shiite factions.

Najaf was deadlocked with these three contenders until their deaths between 1905 and 1908. Among the debates the Shiites clerical cluster had to contend with were the 1905 constitutional reforms in Persia, the 1908 promulgation of the Ottoman Constitution, and a tax protest against the Ottomans. The tax protest would be broken up violently after delivering to Karbala, the area of the protest, three warnings to break up the demonstration and requests for asylum from the British. The protestors were given a 3-week warning, then a 24-hour warning, and finally a 6-hour warning of an impending attack, which was designed to influence the protestors to disperse gradually and capitalize on group dynamics, until they were left with the most ardent protestors. On the issue of constitutionalism, Iraq's Shiite clerics came to a consensus that *mashrutiyah* (constitutionalism) equaled the Islamic requirement for *shura* (consultation); that *istibdad* (despotism) led to killing Prophet Muhammad's grandson and martyr of martyrs, Hussein.

The Arab Awakening

Another pressure within the Arab Middle East was the trend toward what would be called the "Arab awakening." This was stimulated first among Christian Arabs educated in American missionary colleges that evolved into the American University of Beirut and Cairo and spread to Muslim Arabs. The seeds of this movement began in 1875, causing secret Arab nationalist societies to spring up in Iraq and the Levant, which would eventually be suppressed by Ottoman authorities. Many Iraqi and Syrian Arab nationalist thinkers were given asylum in Egypt, then a British protectorate. From where these secret societies formed, Ottoman protest movements, such as the Group for Ottoman Consultation and the Group against Evil and Corruption, formed. Christian Arab Nationalists and Muslim Arab Nationalists were split on the outcome of the Arab awakening movement. The Christians wanted independence for Arab Ottoman lands; the Muslims wanted representation and autonomy under Ottoman rule.

In 1913, the first Arab congress convened in Paris. This forum, including all Arab nationalist exiles, as well as those within Arab lands, assembled in the French capital to work out their differences. Delegates represented specific areas such as Syria, Iraq, and Egypt; Arab exiles even came from the United States to partake in discussions. Also included in the representatives were the Ottomans, and after weeks of talks, a statement recognizing Arab rights in Ottoman dominions and their right to representation and participation in Ottoman government was affirmed. This statement did not satisfy all Arabs — the dissatisfied sect wanted independence. The opposition would manifest itself in a movement started by Iraqi Aziz Ali al-Masri, a former Arab military officer in the Ottoman army. The Arab nationalist movement would also explode on the scene with the promulgation of the 1916 Arab revolt that made T.E. Lawrence a household name. What made things worse for the Ottomans was their inability to put to practice promises of Arab rights and the need to have equal representation in Istanbul. Even after breaking secret societies and participating in the Paris talks with Arab nationalists, Arabs were made to feel like second-class subjects by the Ottomans.

Russian and Italian Encroachment on the Muslim World

If the first Russo-Turkish War portended the carving up of Ottoman possessions, 1911 would see a more aggressive move to-

ward capitalizing Ottoman weaknesses. Designs on the Ottoman Sunni world encompassed an even weaker Qajar Persian dynasty. A financial dispute between the Qajar Persians and Tsarist Russians led to a war in which Tsarist forces occupied Tabriz. Russian forces proceeded to hang Shiite clerics, leading to a call for resistance and jihad, causing a widespread insurgency in Northern Persia. Additionally, in 1912, Russian artillery opened fire on the Imam Reza Mosque, demolishing its dome. The call for fighters reached Najaf and Karbala in Iraq, which was met by a trickle of Iraqi Shiites into Persia to fight alongside insurgents.

With hostilities between Persia and Russia raging, Italian forces landed in Tripoli and began what would be a three-decade war of Libyan colonization. It is in this war, known to Arabs as the conflict in Tarablus Gharb (West Tripoli), that a series of junior Ottoman officers would receive their baptism of fire and would rise to become integral leaders in the Arab and Turkish nationalist movements. Two of these officers were Mustafa Kemal (Attaturk), founder of modern Turkey, and Aziz Ali al-Masri, who would play a role in creating modern Iraq. They were part of a dozen Ottoman military officers sent to organize the Sanussi tribal resistance against Italian forces. The officers were under the command of Anwar Bey, who incited the Sanussis to rebel with a general call for jihad.

The war lasted 11 months before digressing into the three-decade long insurgency campaign in which the Italians controlled the coastal cities and the guerrillas controlled much of the Libyan deserts and mountains. The Ottoman-Italian war over Libya stimulated a Balkan uprising against the Turks in 1912. In Iraq, with the departure of Fahkri Pasha, who had brought order in southern Iraq in the late 19th century, tribal lawlessness returned and was not remedied until the arrival of Nazim Pasha and his modern weapons.

Of particular note, in the later part of Wardi's Volume III, there is discussion of the fatwa endorsed by Iraq's Sunni and Shiite clergy that addressed the need for Muslims to undertake jihad against Italian forces in Libya. One major cleric dissented, Ayatollah Kazim al-Yazdi, who said the British and Russians have occupied Persian Muslim lands longer than the Italian invasion of Libya. Moreover, Yazdi argued that Persian lands were closer to Iraq, and therefore, the jihad against Russian occupation of Northern Persia and British manipulation and control of Persia took precedence over the Libyan jihad.

Nazim Pasha Assumes Baghdad

In 1909, Nazim Pasha tried to balance military force, tribal negotiation, and public works in an attempt to pacify Iraq. Among the public works, he was known for filling the military trenches that circled Baghdad, which had been used for centuries of warfare and eventually became garbage dumps. The trenches had become cesspools and a breeding ground for vermin and disease. Nazim Pasha then undertook building locks and dams

to address the partial flooding of Baghdad when the Euphrates River rose.

On the military front, he opened Iraq's first noncommissioned officer school in which the future leaders of Iraq would first receive their education. Students of this program included Jafar al-Askari, who rose to become a war minister in Iraq, and Nuri al-Said, who rose to become prime minister of Iraq. Perhaps the biggest factor that contributed to lawlessness was Iraqi troops not being regularly paid. The lack of a regular income made it difficult for soldiers, which led them to pillage Baghdad markets on every Eid holiday (marking the end of Hajj and Ramadan), taking what they pleased. This became a custom known to the Iraqis as the *"farhood"* (storm). Nazim instituted regular pay, provided troops with retroactive pay, and proceeded to punish, without mercy, those troops who continued the practice of theft. He reorganized the Iraqi army, creating a full-time gendarme that would police Iraq's major cities. Additionally, Nazim paid attention to prison reform, adopting the European model of employing prisoners in return for better food and conditions, rather than having them languish in a dungeon.

Nazim also planned for the pacification of tribal lawlessness, brigandage, and raiding. He did not organize a force, but obtained a fatwa from a collective of Shiite and Sunni clergy. The fatwa negotiated equated tribal raiding with pre-Islamic practices that descended the Arabs into ignorance and darkness, undermined Islamic unity, and assaulted personal property and the rights of Muslims to worship God. The fatwa also stated that the raiding deprived a Muslim of life and dignity without just cause and used Prophet Muhammad's examples of when the Meccans deprived Muslims of rights to their beliefs, and how the Prophet governed and arbitrated in Medina. The fatwa was signed by seven senior Shiite clerics and seven senior Sunni clerics. It was then distributed throughout Iraq. Nazim Pasha understood that a fatwa alone would not pacify wayward tribes, but this gave him religious legitimacy to undertake a systematic military assault. However, Nazim decided on an alternative tactic to outright assaulting the tribes; he organized a military parade.

"It is in this war, known to Arabs as the conflict in Tarablus Gharb (West Tripoli), that a series of junior Ottoman officers would receive their baptism of fire and would rise to become integral leaders in the Arab and Turkish nationalist movements. Two of these officers were Mustafa Kemal (Attaturk), founder of modern Turkey, and Aziz Ali al-Masri, who would play a role in creating modern Iraq."

Nazim called on all Ottoman forces in Iraq to convene in Baghdad, the equivalent of an army corps. They conducted military maneuvers, drills, parades, and exercises before Ottoman Vali Nazim Pasha. Nazim invited all tribal elders, foreign diplomats, senior Shiite and Sunni clergy, and even tribal leaders he was likely to wage war against, to observe the military maneuvers as his honored guests. Nazim had Sunni and Shiite clergy seated near him, cloaking himself in a tangible demonstration of Iraq's centers of power, including the religious, the diplomatic, the tribal, and the trappings of Ottoman authority (flags, crests of power), which left no doubt he represented Sultan Mehmet V, while displaying his military forces. This resulted in a willingness by leaders of tribal raids

Maintaining the ACR
and its Capabilities for the Force

by Major Christopher Mahaffey

As the U.S. Army prepares to restructure its formations in an effort to regain balance, it has determined that creating 45 brigade combat teams (BCTs) is decisive to its effort.[1] Within this transformation effort, the Army is also seeking a structure to create enough enablers, such as aviation battalions, to support these BCTs. The U.S. Army Force Generation (ARFORGEN) process and the fact that the Army is entering a period of resource-constrained operations are central to this effort, and are driving the Army to consider dissolving the 3d Armored Cavalry Regiment (3d ACR) and other heavy brigade combat teams (HBCTs) to facilitate more Stryker brigade combat teams (SBCTs) and enablers, specifically, aviation assets.

Obviously, the U.S. Army Armor Center's position is to maintain the capability of the 3d ACR as is and, if possible, maintain the correct mix of HBCTs in the force. This effort is in the face of stark criticism due to the resources it takes to operate and sustain these formations, the deployability of these formations, and the perceived lack of a need for heavy formations as the Army continues to shift its aim point to focus on irregular warfare.

The Armor Center has shown through experimentation the requirement for lethal, well-protected forces that can fight for information.[2] Experiments, such as the Complex Web Defense Experiment, revealed that reconnaissance squadrons and combined-arms battalions, equipped with Abrams tanks and Bradley fighting vehicles, were superior to Stryker battalions when conducting offensive operations against a future hybrid enemy. It lacks, however, experimentation that depicts the ACR in an operational setting and therefore it is difficult for leaders to

understand this formation and its capabilities.[3] Because they do not understand this capability, many senior leaders believe that maintaining the ACR, at the detriment of creating all 45 BCTs, will negatively impact ARFORGEN. The fact remains that with ARFORGEN, the Army requires optimally three of any one type of formation — one BCT in the reset pool, one BCT in the trained and ready pool, and one BCT in the available pool — and the ACR is one of one, which does not allow it to fit neatly into this construct.

As the Armor Center participates in the process of redesigning the Army's structure, it becomes apparent that many think it is easier to redesign the ACR as an HBCT or an SBCT, as mentioned above, and use its aviation and other force structure to provide more enablers. This lack of understanding makes it imperative that the ACR's unique capabilities are brought to the forefront in an effort to better inform this decision.

Because decisions on force structure will likely be made this summer, Colonel David A. Teeples, Armor Center Commander, commissioned his initiatives group to conduct a comparative analysis on the force structure of the 3d ACR in an effort to highlight its unique and relevant capabilities. This comparative analysis was designed to explore each BCT structure and was then vetted through a Maneuver Captains Career Course small group to get a tactical perspective from captains who had served in each of these BCTs. The conclusions from this analysis resulted from combining existing doctrine with respect to modular BCTs and are the collective conclusions of the initiatives group. They serve to both highlight the capabilities of the ACR and provide subjective arguments to maintain its structure.

U.S. Formations Capabilities Comparison

Each U.S. formation is optimized, whenever possible, to conduct full-spectrum operations. From a brigade headquarters standpoint, each modular BCT is designed to have similar capabilities with respect to its construct — light, Stryker, or heavy. Due to methods used to achieve transformation to the modular BCT headquarters, the ACR headquarters remains relatively unchanged from the BCT headquarters of the legacy force; whereas, other BCT headquarters have grown through adding what were once division assets.[4] For example, the ACR regimental S3 has 19 personnel, versus 48 personnel in a combination of movement and maneuver staff sections within the HBCT. In general, all BCTs have a command structure, a support structure, a communications structure, and a fires structure that support the various capabilities of each BCT. The initiatives group analysis team found differences between these formations primarily in their capabilities and structure, such as aviation assets, number of systems, number of dismounts, and unmanned aerial vehicles (UAVs), which allow these formations to have differing capabilities.

The Infantry Brigade Combat Team

As outlined in U.S. Army Field Manual (FM) 3-90.6, *The Brigade Combat Team*, the mission of the infantry brigade combat team (IBCT) focuses on "rugged terrain," and describes this formation as the "most versatile."[5] The IBCT'S operational capabilities are:

- Conducting small-unit operations.
- Conducting operations with armored, mechanized, or wheeled forces.
- Conducting operations with special operations forces (SOF).
- Partaking in amphibious operations.
- Maintaining the ability to conduct forced-entry or early-entry operations.
- Conducting air assault, air mobile, or airborne operations.
- Maintaining brigade support battalion/forward support company (BSB/FSC) transportation assets that allow four rifle companies to be truck-borne for any operation.
- Maintaining a reconnaissance squadron consisting of both mounted and dismounted personnel.[6]

The IBCT's limitations include:

- A lack of firepower, mobility, or the inherent protection of an HBCT.
- Two of its maneuver battalions move predominately by foot; organic vehicles must move either soldiers or supplies. The BSB has only enough trucks to transport two rifle companies.
- Its soldiers are especially vulnerable to enemy fires and chemical, biological, radiological, and nuclear (CBRN) attacks while moving.
- With only two maneuver battalions, its options are limited for retaining capabilities for a pursuit, exploitation, or reserve force.
- A lack of organic gap-crossing capability.
- Its soldiers require U.S. Air Force (USAF) support for airborne assault.
- It requires the support of at least two combat aviation brigades for brigade-level air assaults.[7]

By far, the IBCT's strength is in its dismount capability; each of its two infan-
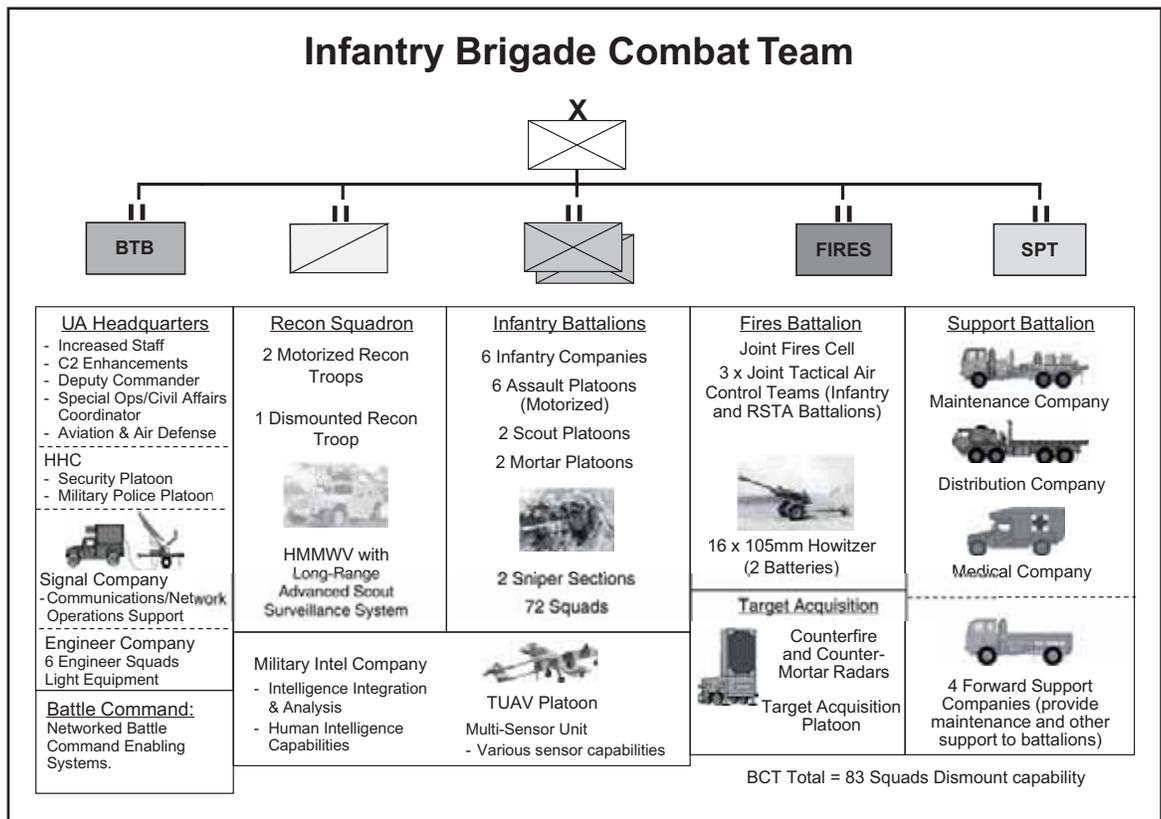

Infantry Brigade Combat Team

BTB

UA Headquarters
- Increased Staff
- C2 Enhancements
- Deputy Commander
- Special Ops/Civil Affairs Coordinator
- Aviation & Air Defense

HHC
- Security Platoon
- Military Police Platoon

Signal Company
- Communications/Network Operations Support

Engineer Company
6 Engineer Squads Light Equipment

Battle Command:
Networked Battle Command Enabling Systems.

Recon Squadron
2 Motorized Recon Troops

1 Dismounted Recon Troop

HMMWV with Long-Range Advanced Scout Surveillance System

Military Intel Company
- Intelligence Integration & Analysis
- Human Intelligence Capabilities

Infantry Battalions
6 Infantry Companies

6 Assault Platoons (Motorized)

2 Scout Platoons

2 Mortar Platoons

2 Sniper Sections

72 Squads

TUAV Platoon

Multi-Sensor Unit
- Various sensor capabilities

FIRES

Fires Battalion
Joint Fires Cell

3 x Joint Tactical Air Control Teams (Infantry and RSTA Battalions)

16 x 105mm Howitzer (2 Batteries)

Target Acquisition
Counterfire and Counter-Mortar Radars

Target Acquisition Platoon

SPT

Support Battalion

Maintenance Company

Distribution Company

Medical Company

4 Forward Support Companies (provide maintenance and other support to battalions)

BCT Total = 83 Squads Dismount capability
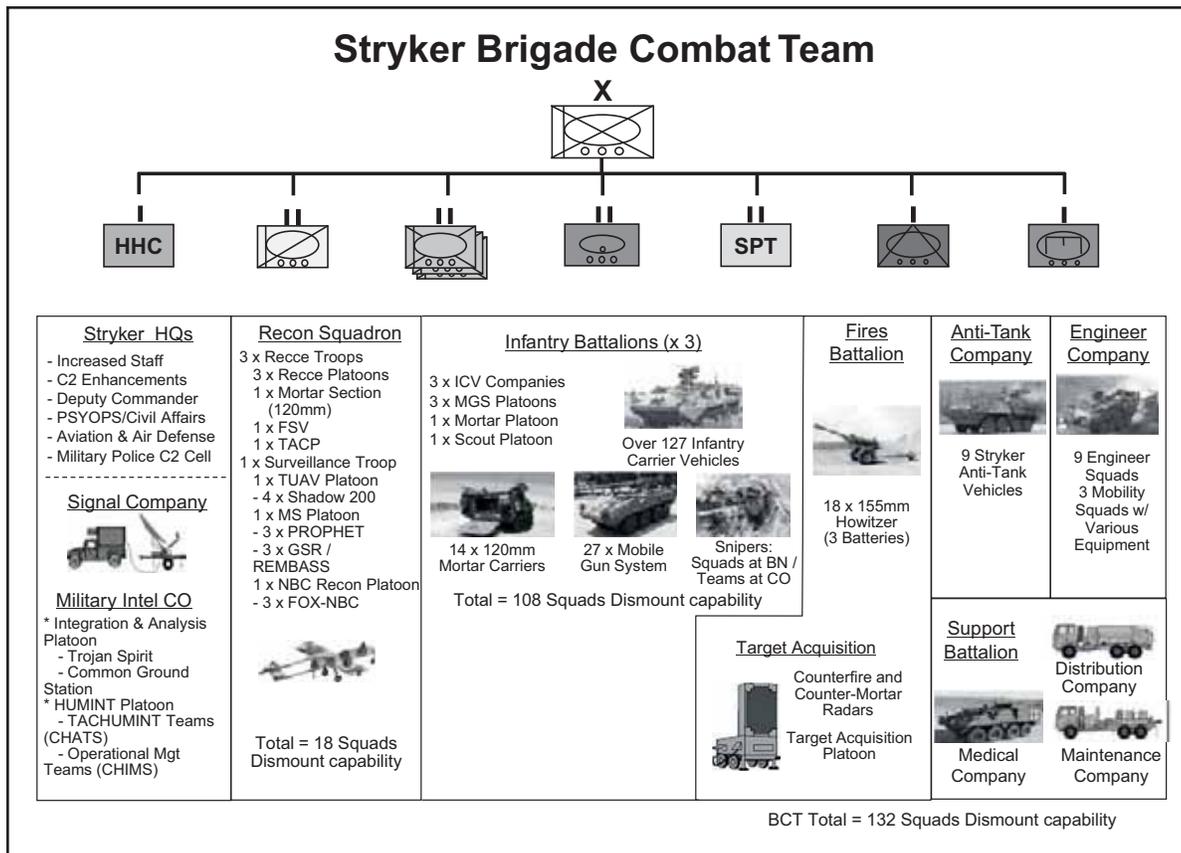
Figure 1

Stryker Brigade Combat Team

Figure 2

try battalions is composed of three infantry companies that collectively make up 72 squads of dismounts. Each infantry battalion also has an assault company and a headquarters company with a scout platoon, a mortar platoon, and a sniper section. Counting scouts as squads is difficult as their function and design is different; however, for the purposes of this discussion, we will determine the scouts within each structure as a function of nine-man infantry squads.[8]

The scout platoon in an IBCT battalion consists of 22 personnel, which equates to four additional squads for the brigade. The brigade also has a reconnaissance squadron with two mounted recon troops and one dismounted recon troop, a fires battalion with two batteries of towed 155-mm howitzers, and an engineer company. Adding the reconnaissance squadron provides an additional seven squads to a brigade, a total of 83 squads of dismount capability. The team's analysis revealed that the IBCT's inherent weaknesses are its lack of protection and mobility. It is also the least digitally enabled BCT, which limits its ability to conduct command and control (C2) and situational awareness and understanding. The IBCT's strengths include the ability to operate in restrictive terrain and the versatility of its dismount capability.

The Stryker Brigade Combat Team

The SBCT's mission focuses on small-scale contingencies and its mobility and intelligence, surveillance, and reconnaissance (ISR) assets when conducting major combat operations. The SBCT's operational capabilities include:

- Three infantry battalions for maneuver (versus two in the HBCT and IBCT).
- Infantry battalions that have organic armor in their mobile gun system (MGS) platoons.[9]
- In-theater mobility.
- Fewer class III supplies than the HBCT, with nearly the same mobility.
- Greater survivability than an IBCT.
- The ability to conduct forced-entry or early-entry operations.
- Reconnaissance squadrons with organic human intelligence (HUMINT) soldiers.

The limitations of the SBCT include:

- A lack of firepower or inherent protection of HBCTs.
- A requirement for more aircraft to deploy than an IBCT.
- Its BSB does not have FSCs for each maneuver battalion.

- A lack of organic gap-crossing capability.
- A lack of a brigade special troops battalion (BSTB) for C2 of brigade troops.[10]

The Stryker brigade builds on the IBCT's dismount capability with the use of the Stryker for mobility. Each of its three infantry battalions has three infantry companies, with a total of 108 squads. Each company also includes an MGS platoon, which has three MGS vehicles with the capability to provide 105mm lethality for the dismounted force; a sniper team, which provides lethal precision small-arms fire; and a mortar section complete with 120-mm mortars. The Stryker infantry battalion also has a headquarters company, a scout and mortar platoon, and a sniper squad. The scout platoon provides two additional squads of dismounts, which totals six squads for the BCT. The brigade also has a reconnaissance squadron with three reconnaissance troops; each troop has three scout platoons and an organic HUMINT capability.

The reconnaissance squadron adds an additional 18 squads of dismount capability, which brings a total of 132 squads to the SBCT. The SBCT also has a fires battalion, with three batteries of towed 155mm artillery, an antitank company,
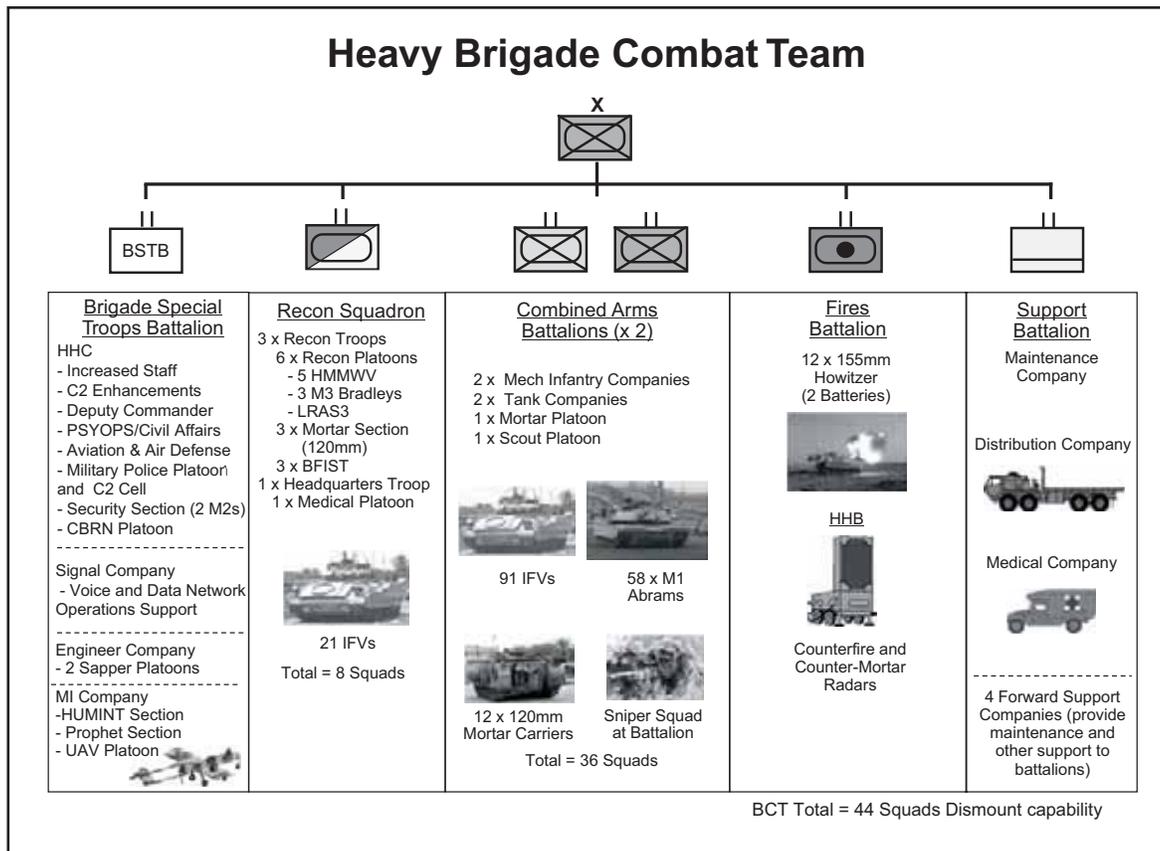
Heavy Brigade Combat Team

Brigade Special Troops Battalion	Recon Squadron	Combined Arms Battalions (x 2)	Fires Battalion	Support Battalion

HHC
- Increased Staff
- C2 Enhancements
- Deputy Commander
- PSYOPS/Civil Affairs
- Aviation & Air Defense
- Military Police Platoon and C2 Cell
- Security Section (2 M2s)
- CBRN Platoon
- - - - - - - - - - - - - - -
Signal Company
- Voice and Data Network Operations Support
- - - - - - - - - - - - - - -
Engineer Company
- 2 Sapper Platoons
- - - - - - - - - - - - - -
MI Company
-HUMINT Section
- Prophet Section
- UAV Platoon
	3 x Recon Troops
	  6 x Recon Platoons
	   - 5 HMMWV
	   - 3 M3 Bradleys
	   - LRAS3
	3 x Mortar Section
	  (120mm)
	3 x BFIST
	1 x Headquarters Troop
	1 x Medical Platoon
	
	21 IFVs
	
	Total = 8 Squads
		2 x Mech Infantry Companies
		2 x Tank Companies
		1 x Mortar Platoon
		1 x Scout Platoon
		
		91 IFVs 58 x M1 Abrams
		
		12 x 120mm Mortar Carriers Sniper Squad at Battalion
		
		Total = 36 Squads
			12 x 155mm Howitzer (2 Batteries)
			
			HHB
			
			Counterfire and Counter-Mortar Radars
				Maintenance Company
				
				Distribution Company
				
				Medical Company
				
				- - - - - - - - - - - -
				4 Forward Support Companies (provide maintenance and other support to battalions)

BCT Total = 44 Squads Dismount capability

Figure 3

and an engineer company. After careful examination, the analysis team determined that the SBCT is optimized for urban operations in a medium- to low-intensity environment against an irregular threat. The team discussed its weaknesses, its lack of protection, and its centralized support structure. In short, the team concluded that the SBCT was optimum for the irregular threat in Iraq and Afghanistan, but offered less capability at other ends of the spectrum.

The Heavy Brigade Combat Team

The mission of the HBCT focuses on conducting full-spectrum operations; its capabilities include:

- Conducting sustained operations in most environments.
- Accomplishing very rapid movement and deep penetrations.
- Conducting security operations.
- Conducting offensive and defensive operations.
- Maintaining the ability to integrate light or special operations forces.
- Possessing mobile protected firepower.
- Providing digital situational awareness down to vehicle level.

- Performing company-sized air assaults.

The HBCT's limitations include:

- A high dependence on radio communications.
- Restricted mobility in highly mountainous terrain or dense forests.
- A high usage rate of consumable supplies, particularly class III, V, and IX; do not underestimate its requirements.
- Vulnerability to mines and antitank weapons.
- A footprint usually larger than that of lighter forces.
- A higher risk to fratricide of light forces due to an inability to determine friend or foe unless mounted.
- A lack of an S3 air section to plan and oversee air assault operations.
- A lack of organic gap-crossing capability.[11]

The HBCT focuses on the protection and lethality provided by its armored systems. It has limited dismount capability and can deploy 36 squads from its two mechanized infantry companies. Its real strength is in its systems, which include two combined arms battalions and a reconnaissance

squadron, bringing 53 Abrams tanks and 112 Bradley fighting vehicles to the fight. Each battalion also boasts a scout platoon, with an additional squad of dismounts, a mortar platoon, and a sniper squad. The brigade contains a reconnaissance squadron, which provides the brigade with six additional squads of dismounts for an HBCT, a total of 44 squads. The HBCT completes its force structure with a field artillery battalion that has 16 155mm howitzers. The brigade also contains a sustainment battalion, which has the capability to sustain each of its maneuver and fires battalions with forward support companies, and an engineer company with two sapper platoons.

The team determined that the HBCT is optimized for operations in open areas, but has proven effective operating in urban areas. Its strength is in the lethality and protection of its systems. The team also discussed the BCT's weaknesses, which include a requirement for more logistics support than lighter organizations; a lack of mobility assets, which can constrain its maneuver; and a reduced dismount capability compared to its lighter counterparts.

The Armored Cavalry Regiment

When researching the mission, capabilities, and limitations of the ACR, the Army's doctrine is somewhat outdated —
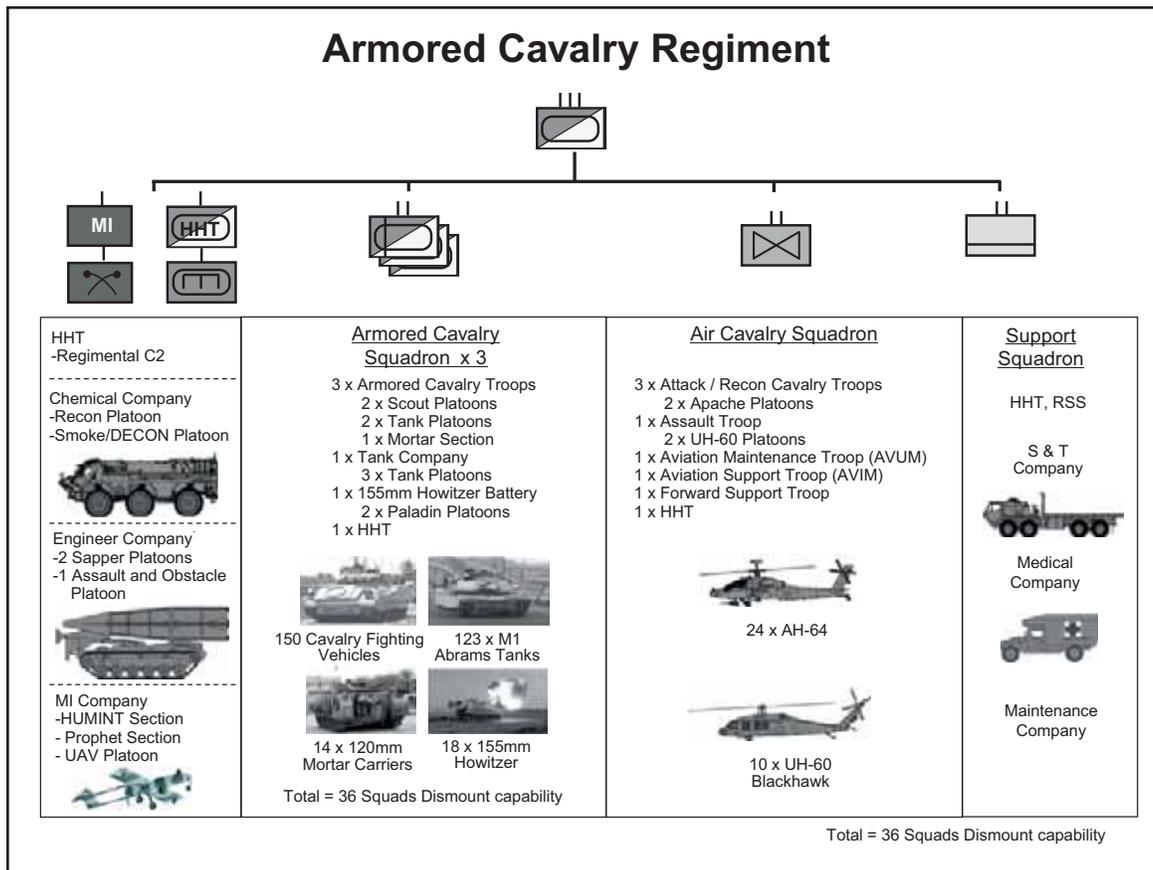
Figure 4

there is not a manual that covers the ACR. FM 17-95, *Cavalry Operations*, was written with little insight into irregular warfare, yet it is the last publication that discusses the ACR.[12] Furthermore, there has been little experimentation from which to glean insight that included the ACR structure.[13] The most current squadron-level cavalry manual, FM 3-20.96, *Reconnaissance Squadron*, does not address the armored cavalry squadron.[14] Therefore, the team had to develop a mission, capabilities, and limitations based on its own analysis, which was then vetted through the Armor Center commander, a former commander of the 3d ACR.

As mentioned earlier, this analysis is crucial if the Army is to understand the capabilities of the ACR and, in effect, what the Army would lose if it changes its current formation. The team began with FM 17-95, *Cavalry Operations*, the most recent FM we could find that discusses the ACR, which states, "The fundamental purpose of cavalry is to perform reconnaissance and provide security in close operations. In doing so, cavalry facilitates the commander's ability to maneuver subordinate units and concentrate superior combat power and apply it against the enemy at the decisive time and point. Cavalry clarifies, in part, the fog of battle. Cavalry is, by its role, an economy of

force. The flexible capabilities of cavalry allow the commander to conserve the combat power of his organization for engagement where he desires. The combat power of cavalry units, in particular, makes them ideal for offensive and defensive missions as an economy of force."[15]

On the other hand, FM 3-20.96, *Reconnaissance Squadron*, states that the mission of the reconnaissance squadron is to "conduct reconnaissance and security operations in support of BCT stability, offensive, and defensive operations."[16]

Taking both definitions into account, the team determined that the mission of the ACR was to conduct reconnaissance and security operations in support of a division, corps, or joint force commander's stability, offensive, and defensive operations. This ACR also has the flexibility to conduct *full-spectrum operations as an economy of force* within any theater.

Counterinsurgency (COIN) and, by correlation, irregular warfare are intelligence-driven endeavors.[17] Therefore, by its abundance of intelligence-gathering assets, the ACR is capable of operating at the high end of the spectrum, while maintaining its capability of operating in the new aim point of counterinsurgency and irregular warfare. Furthermore, the ACR is the only

organization in our Army that can offer reconnaissance and security support to the joint force.

Next, the team looked at the capabilities of the reconnaissance squadron in accordance with FM 3-20.96, *Reconnaissance Squadron*, and the role of cavalry in FM 17-95, *Cavalry Operations*.[18] The team focused on FM 17-95, understanding it was outdated, but looked at the role of the ACR in support of corps-level offensive and defensive operations.[19] The manual states that during offensive operations, "The ACR performs a number of missions for the commander, which includes:

- "Covering force during movement to contact.

- Flank security along an exposed flank during movement to contact or deliberate attack.

- Area security operations, to include route and convoy, within the corps area of operations; reserve during a deliberate attack to serve as an exploitation or pursuit force.

- Offensive or defensive operations.

- Special purpose operations such as deception operations, rear area tactical combat force, reconnaissance in force, and raid."[20]

During defensive operations, the ACR can perform:

- "Defensive covering force; flank security along an exposed flank of the corps.
- Area, convoy, and route security within the corps area of operations.
- Defensive operations in an economy-of-force role.
- Reserve initially or after a defensive cover to serve as a counterattack force or one prepared to lead a transition to offensive operations with offensive cover.
- Special purpose operations such as deception operations, rear area tactical combat force, spoiling attack, or raid."[21]

Taking both manuals, 3-20.96 and 17-95, into account and looking at the full-spectrum capabilities of the HBCT (the BCT that is most similar to the ACR from a systems standpoint), the team determined that the ACR is capable of:

- Operating independently over a wide area and at extended distances to conduct reconnaissance and security operations, to include guarding and covering in support of supported unit or joint force full-spectrum operations.
- Conducting full-spectrum operations as an economy of force.
- Conducting close reconnaissance of threat forces by maximizing assets to gather information on multidimensional threats, both conventional and unconventional.
- Conducting stealthy small-unit operations to gather intelligence or information.
- Maintaining the ability to integrate light or special operations forces.
- Possessing mobile, protected firepower.
- Providing digital situational awareness down to vehicle level.
- Using its organic capability to perform troop-level air assaults, to include the capability to plan these operations.
- Fighting for information against heavy threats.
- Special purpose operations such as deception operations, rear area tactical combat force, reconnaissance in force, and raid.[22]

When exploring the ACR's limitations, we were forced to look at FM 3-20.96 alone, as FM 17-95 did not discuss its limitations.[23] Based on FM 3-20.96, the limitations of the reconnaissance squadron include:

- "A lack of direct-fire standoff, lethality, and survivability in open and rolling terrain and requires augmentation when an armor threat is anticipated.
- A requirement for augmentation to perform offensive and defensive operations as an economy of force.
- Limited sustainment assets that must frequently operate over extended distances."[24]

The team noted that with the ACR's capabilities and structure, the first and second bullets above do not pertain at all. The third bullet was debated without consensus due to the fact that although the ACR is based on heavy platforms that require more sustainment, its sustainment structure mitigates this limitation. In short, the ACR and squadron do not share the same limitations of other Army reconnaissance squadrons.

Taking these facts into account with the limitations of the HBCT, the team determined the ACR's limitations include:

- High dependence on radio communications.
- Restricted mobility in highly mountainous terrain or dense forests.
- High usage rate of consumable supplies, particularly class III, V, and IX, which requires sustainment assets to frequently operate over extended distances.
- Vulnerability to mines and antitank weapons.
- A larger footprint than that of a lighter force.
- An increase of fratricide of light forces due to the inability to determine friend or foe unless mounted.

The cavalry regiment focuses on being a robust combined-arms team and is best suited for conducting reconnaissance, security, and economy-of-force operations. It, too, focuses on the lethality and protection provided by its systems; however, its troopers, based on their conditioning through the fundamentals of reconnaissance and security, strive to avoid direct-fire contact with their enemy unless it is on their terms. They use their systems for survivability and to develop the situation for the commander on the battlefield. If necessary, they can fight for information.

The cavalry regiment is built, from the ground up, to be a combined-arms team and operate decentralized. Although it lacks infantry squads, its dismounted scouts are extremely capable of conducting small-unit dismounted operations. The regiment consists of three cavalry squadrons; each of which has three cavalry troops and one tank company. In total, these squadrons are composed of 123 Abrams tanks and 150 Bradley fighting vehicles, a formidable force. The scout platoon can dismount 18 soldiers, which equates to 36 squads for the regiment. This is fewer than that of an HBCT; however, because they operate in two- to four-man teams, they are capable of fielding up to 72 dismounted patrols, as well as supporting these patrols with vehicular overwatch.[25] Each squadron also has its own organic artillery battery of six Paladins, for a total of 18 for the regiment.

The real beauty of the cavalry regiment is its organic aviation squadron; units routinely train with aviation assets and become experts at air-ground integration. The air cavalry squadron consists of three Apache troops, each equipped with eight Apache attack helicopters. Within this squadron, there is an organic lift assault troop, equipped with ten Blackhawk utility helicopters.

There have been many discussions, both in *ARMOR* and other professional journals, about the necessity to be proficient in air-ground integration. Based on my experiences, having organic aviation at the BCT level is paramount to air-ground integration. As a former scout platoon leader, I know nothing is more powerful than having a pilot who knows how your organization operates — this intangible is lost in all other aviation structures throughout the Army. To further my point, I quote Captain Steve Wojdakowski, Apache Troop, 1st Squadron, 3d Armored Cavalry Regiment: "Organic aviation simplifies the fight considerably. We train with Nomad [an aviation troop] consistently, integrating them into the cavalry team. Much of the air-ground integration is automatic when the aviation troop knows and understands the way ground cavalry troops fight [and operate]. We understand each other's capabilities and limitations and can more effectively achieve our endstate. The pilots learn our TTP and can tailor their maneuver to better our objectives and vice versa."[26]

The cavalry regiment has a robust engineer company with four platoons — three sapper platoons with Bradleys and one assault and obstacle platoon with organic gap-crossing capability. The ACR

Capabilities/Limitations Comparison

ACR Capabilities:
- Operates independently over a wide area and at extended distances to conduct reconnaissance and security operations, to include guarding and covering in support of its supported unit's or joint force's full-spectrum operations.
- Conducts full-spectrum operations as an economy of force.
- Conducts close reconnaissance of threat forces by maximizing assets to gather information about multidimensional threats, both conventional and unconventional.
- Conducts stealthy small-unit operations to gather intelligence or information.
- Maintains the ability to integrate light or SOF.
- Possesses mobile, protected firepower.
- Provides digital situational awareness down to vehicle-level.
- Has the organic capability to perform troop-level air assaults.
- Fights for information against heavy threats.
- Special purpose operations such as deception operations, rear area tactical combat force, reconnaissance in force, and raid.

IBCT Capabilities:
- Conducts small-unit operations.
- Conducts operations with armored, mechanized, or wheeled forces.
- Conducts operations with SOF.
- Takes part in amphibious operations.
- Maintains the ability to conduct forced-entry or early-entry operations.
- Conducts air assault, air mobile, or airborne operations.
- Maintains BSB/FSC transportation assets that allow four rifle companies to be truck-borne for any operation.
- Maintains a reconnaissance squadron consisting of both mounted and dismounted personnel.

HBCT Capabilities:
- Conducts sustained operations in most environments.
- Accomplishes very rapid movement and deep penetrations.
- Conducts security operations.
- Conducting offensive and defensive operations.
- Maintains the ability to integrate light or SOF.
- Possesses mobile, protected firepower.
- Provides digital situational awareness down to vehicle-level.
- Performs company-sized air assaults.

SBCT Capabilities:
- Three infantry battalions for maneuver (vs only two in the HBCT and IBCT).
- Infantry battalions contain organic armor in their MGS platoons.
- In-theater mobility.
- Lower usage rate of class III supplies than the HBCT, with nearly the same mobility.
- Greater survivability than an IBCT.
- Ability to conduct forced-entry or early-entry operations.
- Reconnaissance squadrons with organic HUMINT soldiers.

ACR Limitations:
- High dependence on radio communications.
- Restricted mobility in highly mountainous terrain or dense forests.
- High usage rate of consumable supplies, particularly class III, V, and IX, requires sustainment assets to frequently operate over extended distances.
- Vulnerability to mines and antitank weapons.
- Footprint is usually larger than a lighter force.
- Risk of fratricide of light forces is higher due to the inability to determine friend or foe unless mounted.
- Lacks an S3 air section to plan and oversee air assault operations.

IBCT Limitations:
- Lacks the firepower, mobility, or inherent protection of HBCTs.
- Its two maneuver battalions move predominately by foot; organic vehicles must move either soldiers or supplies. The BSB has only enough trucks to transport two rifle companies.
- Infantry soldiers are especially vulnerable to enemy fires and CBRN attacks while soldiers are moving.
- With only two maneuver battalions, options are limited for retaining capabilities for a pursuit, exploitation, or reserve force.
- No organic gap-crossing capability.
- Its soldiers require USAF support for airborne assault.
- For a brigade-level air assault, the IBCT requires the support of at least two combat aviation brigades.

HBCT Limitations:
- High dependence on radio communications.
- Restricted mobility in highly mountainous terrain or dense forests.
- High usage rate of consumable supplies, particularly class III, V, and IX; do not underestimate its requirements.
- Vulnerability to mines and antitank weapons.
- Footprint is usually larger than a lighter force.
- Risk of fratricide of light forces is higher due to the inability to determine friend or foe unless mounted.
- Its staff does not have an S3 air section to plan and oversee air assault operations.
- No organic gap-crossing capability.

SBCT Limitations:
- Lacks the firepower or inherent protection of HBCTs.
- Requires more aircraft to deploy than an IBCT.
- The BSB does not have FSCs for each maneuver battalion.
- No organic gap-crossing capability.
- There is no BSTB for C2 of brigade troops.

Figure 5

also has headquarters and headquarters troops robust enough to sustain each of its squadrons, and an organic support squadron with a robust sustainment capability that is easily decentralized. The formation is built to be decentralized with sustainment and mortar capability in each troop and company. In addition to the two UAVs in a normal BCT military intelligence (MI) company, the ACR's MI company boasts four UAVs, doubling its coverage.

As with the heavy brigade, this organization is optimized for operations in an open environment, but has proved effective when operating in urban areas as an economy of force and decentralized. Its weaknesses include an increased logistics requirement compared to lighter organizations and a reduced dismount capability; however, its strengths include its aviation assets; its structure, which enables combined-arms operations at the troop level; and its ability to conduct full-spectrum operations as a BCT while maintaining the ability to support a joint commander by gathering intelligence and providing security, dependent on the contingency. All these strengths are in addition to its lethality and protection of its systems.

Capabilities Comparison

If the ACR's structure is changed, the Army and the joint force will lose all of its capabilities. Figure 5 highlights these

capabilities and the limitations with respect to the other BCTs in the Army's inventory. In our discussions, the team focused on four capabilities the Army would lose, as well as four limitations of other structures that depend on the ACR to fill their gaps. In particular, the team noted that the ACR is the only unit designed to operate as an economy of force.[27] Capabilities lost include:

- Reconnaissance and security operations, to include guarding and covering in support of supported unit or joint force full-spectrum operations.

- Conducting full-spectrum operations as an economy of force.

- Conducting close reconnaissance of threat forces by maximizing assets to gather information about multidimensional threats, both conventional and unconventional.

- The capability of conducting stealthy small-unit operations to gather intelligence or information.

The capability gaps the ACR fills include:

- The capability of a fully integrated combined-arms organization.

- The capability to operate as an economy of force.

- The capability to supplement the SBCT, which does not have the firepower or inherent protection of HBCTs.

- An organic gap-crossing capability.

The risk associated with losing this capability is high. The ACR is the only brigade-sized organization equipped to conduct reconnaissance and security operations for the Army. Although the battlefield surveillance brigade (BfSB) is designed to conduct limited reconnaissance, it is not equipped to conduct security operations.[28] Furthermore, the ACR is the only organization without augmentation that can conduct security operations other than a screen. Realizing both of these tasks are geared toward the high end of the spectrum, the ACR has the added capability of conducting full-spectrum operations as an economy of force, giving the combatant commander a capability that can be surged into an area to maintain stability, allowing him to focus on his center of gravity. For example, during the initial stages of Operation Iraqi Freedom (OIF), the 3d Armored Cavalry Regiment was used to control the western province of Al Anbar, which is roughly the size of the state of Wyoming, to include the cities of Ramadi, Fallujah, Hit, Haditha, and Al Qa'im, while Multinational Corps-Iraq (MNC-I) focused on Baghdad.

The ACR's capability to conduct close reconnaissance of conventional and unconventional threats gives it a unique capability to function against hybrid threats. This was demonstrated partially by the success of the reconnaissance squadron tested in the Complex Web Defense Experiment. The test squadron was outfitted with Abrams tanks and Bradley fighting vehicles similar to that of an ACR squadron, and was re-tasked due to its success and the Stryker battalion's difficulties as the main effort. This squadron subsequently achieved the brigade's objective and did so without the added capability of organic aviation. One can surmise that with the addition of aviation, this organization becomes optimized to meet the hybrid and irregular threats the United States may one day face on the battlefield.

The team also focused on the ACR's structure, which allows it to conduct decentralized operations. One of the contemporary imperatives of counterinsurgency is to "empower the lowest level."[29] After nearly 7 years of conducting these types of operation in Iraq and Afghanistan, we continue to struggle to accomplish our mission because most of our enablers are massed at higher levels within our structure. For example, when I deployed to OIF III with the 3d Infantry
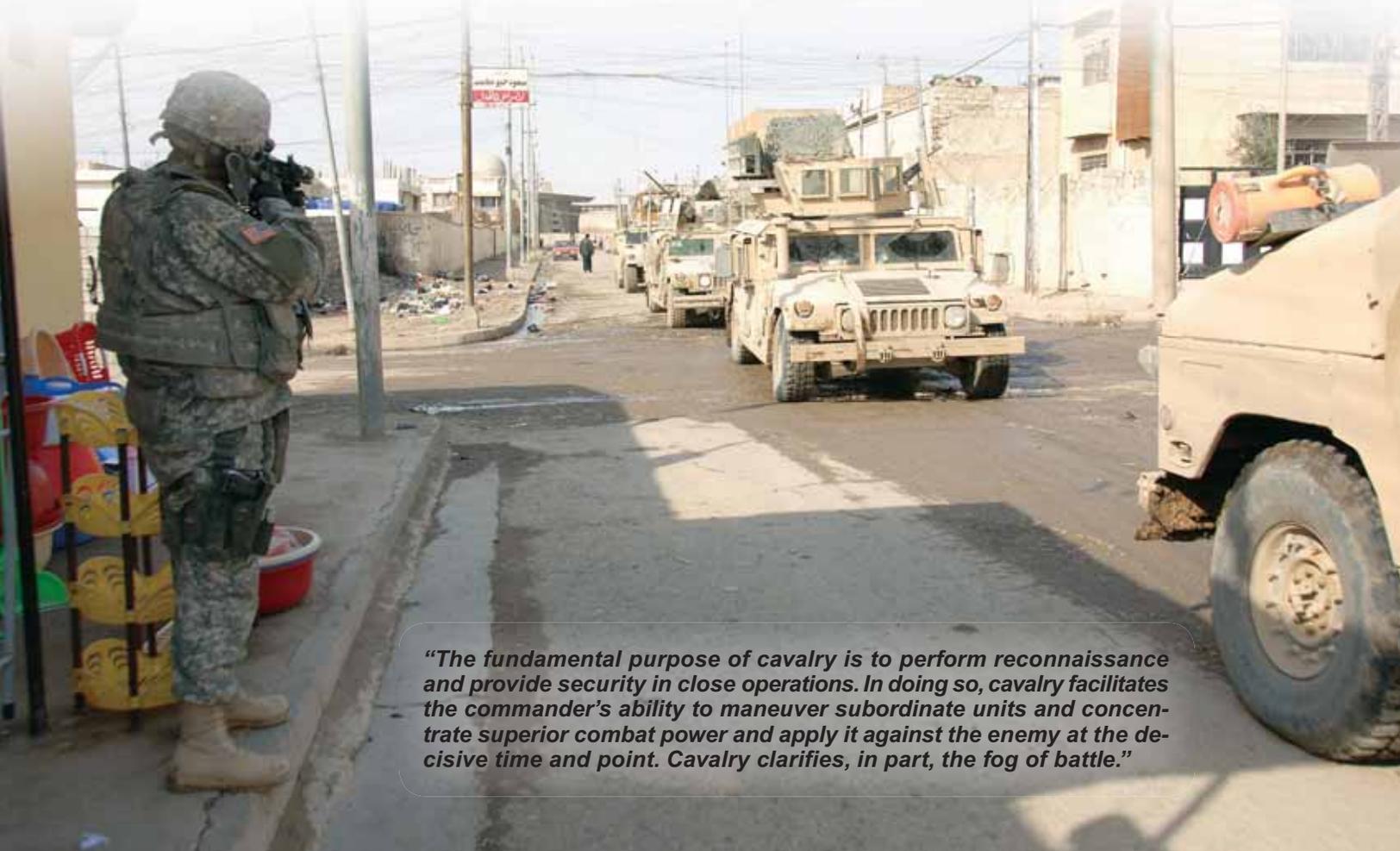
"The fundamental purpose of cavalry is to perform reconnaissance and provide security in close operations. In doing so, cavalry facilitates the commander's ability to maneuver subordinate units and concentrate superior combat power and apply it against the enemy at the decisive time and point. Cavalry clarifies, in part, the fog of battle."

Division as a tank company commander, I had to get my infantry platoon from another company, my maintenance and fuel support from the FSC, and if I wanted aviation or UAV support, I had to request these through my battalion and brigade to the division. The ACR is designed with the majority of these assets positioned on the battlefield to operate decentralized, thus, making it more conducive to irregular warfare or counterinsurgency.

An ACR troop has organic mounted and dismounted capability and its own maintenance capability. The squadron's headquarters and headquarters troop has a fuel package designed to break off and support the troop, and if the troop commander needs aviation or UAV support, it is organic at the regimental level. In fact, the regiment has the capability to operationally control (OPCON) assets, from aviation troops to ground cavalry squadrons, to increase decentralization and flexibility. This was certainly the case during OIF I.

Finally, the team focused on the gaps the ACR fills for our force. First and foremost, as discussed above, the ACR is a fully integrated combined-arms organization. No other organization's structure even compares to the ACR's capability to operate decentralized. In fact, the ACR's capability to operate as an economy of force replaces a division's worth of combat power. The ACR is a force that can deploy to a second front, or contingency theater, as a holding force while the bulk of the Army is engaged elsewhere.

The results of the Complex Web Defense Experiment highlight the gap that the ACR and the HBCT, in general, fill for the Stryker platform. Furthermore, if one looks at the development and fielding of the mine-resistant, ambush-protected (MRAP) vehicle, which was driven by America's public outcry for more protection for its soldiers, one can surmise that the need to maintain this level of protection is paramount to conducting protracted future engagements.

Lastly, the ACR has its own gap-crossing capability, although this gap can be fulfilled by maneuver enhancement brigades, it correlates to our discussion of aviation and other enablers that allow the ACR to operate decentralized and independently.

Conclusive Facts

The ACR is built as a combined-arms force from troop to regiment. Its loss to our Army would be detrimental to our current and future capabilities. In short, once this structure is dismantled, it is unlikely the Army will ever get it back. The initiative group's study highlights the ACR's efficiencies, capabilities, and limitations, which should inform redesign. With this thought, I acknowledge the possibility that we, as an army, may have to get past some of the "branchisms" that have driven our restructuring decisions in the past. We may need to stop worrying about how many battalions are available for a certain branch to command and instead open up brigades and battalions to more branches. For example, if we did not have aviation-pure battalions and brigades and pushed that capability to organic maneuver brigades, we could allow aviation lieutenant colonels and colonels to command maneuver battalions and brigades. The point is to develop the best possible platoon, company, battalion, and brigade capable of successfully operating in the perceived future. With this in mind, an enterprise approach of looking at the capabilities the Army desires at each echelon, and the mix of these capabilities, is where we need to start. This, coupled with experimentation that informs our decisions, may be a wiser approach than what appears to be a race to get to 45 BCTs. Maybe the right answer is a BCT, equipped with a Stryker battalion, a light battalion, a combined-arms battalion, an ACR squadron, and an aviation troop. The point is: we, as an Army, are obligated to take a good hard look at the capabilities, both current and future, of the ACR — not destroy it because of ARFORGEN.

Another alternative is to look at the structure and design of the BfSB and determine if this structure is necessary or if it can be used to provide the unique capability that the ACR brings our Army. In accordance with its operational and organizational concept, the BfSB is designed to perform Army tactical task 1.3, "perform intelligence, surveillance, and reconnaissance (ISR);" however, as recent as Unified Quest 2009, Army leaders have questioned the term "ISR" and its use in the Army lexicon.[30] Furthermore, recent attendees at the former brigade commander's seminar made the following points:

- Irregular warfare is still warfare and security remains first priority.

- Irregular warfare demands proficiency in fighting as a combined-arms team as the price of admission.

- Modular approach is sound, but would prefer more robust BCTs: reconnaissance, surveillance, and target acquisition (RSTA) squadron able to fight for information; third maneuver battalion (four companies); more combat and construction engineers;

more signal intelligence (SIGINT); and better intelligence analysis at all echelons.

These points, coupled with the BfSB computer-assisted map exercise (CAM-EX), which identified that the BfSB can perform surveillance and limited reconnaissance, but is not resourced to conduct security operations, strengthen the position that the cavalry regiment and squadron are better resourced to provide this capability than the BfSB and, therefore, are the better structure choices to retain.

The ACR is, and has been, the premier heavy force within the Army. It provides the right mix of forces at the right level to conduct full-spectrum operations. In 1993, Colonel David Teeples, then the S3 for the 11th ACR, along with now-retired General William S. Wallace as his commander, conducted a similar study. This study was, for its time, farsighted in focusing on conducting what was then known as "peacekeeping operations," and demonstrated how an ACR was uniquely configured to conduct stability operations (then peacekeeping operations) as an economy of force for a combatant commander. General Wallace's insights from this study concluded that the ACR provided the combatant commander a force that could conduct security, had a robust command and control network, and could operate as an economy of force. This study was briefed to the U.S. Army Europe (USAREUR) commander, but, unfortunately, fell on deaf ears.

The 11th ACR has since been turned into a heavy brigade, minus the 2d ACR, and was transformed into a light regiment, leaving the 3d ACR the only surviving ACR. The ACR is misunderstood and under attack; repeating the mistake of dismantling the ACR means a loss of capability for the Army and future joint task force commanders.

Notes

[1]Defense Secretary Robert Gates announced his decision on 6 April at a Pentagon press conference to reduce the initial 48 brigade combat teams (BCTs) to 45 better manned BCTs.

[2]The 2008 Reconnaissance Summit (Outbrief), 13 and 14 November 2008, Skidgel Hall, Fort Knox, Kentucky. The summit provided feedback to the TRADOC commander and other stakeholders on the current status and capabilities of modular reconnaissance organizations and ongoing initiatives, as well as gained consensus on reconnaissance issues and identified options for future reconnaissance developments in the modular force.

[3]During the Interservice/Industry Training, Simulation and Education Conference (I/ITSEC) in March 2008, under the Mounted Maneuver Battle Lab (MMBL) leadership, the Army's Training and Doctrine Command's (TRADOC) Battle Lab Collaboration and Simulation Environment (BLCSE) federation executed the Complex Web Defense (CWD) experiment. Parallel to multipurpose OneSAF Testbed (OTB) baseline's main entity driver functionality, OneSAF Objective System was used

to examine the effectiveness of systems and tactics of a force composed of a combined arms battalion (CAB), one Stryker infantry battalion, force design update (FDU) reconnaissance squadron, supported by appropriate joint and Army enablers against a predominately dismounted enemy embedded in a semi-urban environment.

[4]During transformation and subsequent force design updates, guidance was given to look for internal billpayers within each formation as structure was created. For example, an engineer battalion headquarters from the legacy division structure became billpayers for brigade special troops battalion headquarters; however, the ACR is a single colonel level-command, making it difficult to find this type of efficiency that will allow growth.

[5]Headquarters, Department of the Army (HQDA), U.S. Army Field Manual (FM) 3-90.6, *The Brigade Combat Team*, U.S. Government Printing Office (GPO), Washington, DC, August 2006.

[6]Ibid., p. A-6.

[7]Ibid., pp. A-6 and A-7.

[8]HQDA, FM 3-20.98, *Reconnaissance Platoon*, GPO, Washington, DC, December 2002, pp. 1-7 through 1-9. According to doctrine, infantry squads operate as two four-man fire teams, led by a squad leader who has command and control over the teams. Scouts operate in two- to four-man reconnaissance and security patrols. The point of training with respect to scouts and infantrymen, and the implications of a scout being trained on more tasks and thus being more versatile, was also discussed during the 3d ACR analysis; however, we chose not to include this argument due to lack of empirical evidence. For the purpose of the analysis, we studied how many squads could be formed within a platoon, adding the additional six scouts as prescribed in the last round of FDUs. We used the standard mathematical rules of rounding.

[9]FM 3-90.6, *The Brigade Combat Team*. Although stated in FM 3-90.6, based on the design and specifications of the mobile gun system (MGS), the analysis team had a detailed discussion on the lack of protection for this system, which prevents it

from being used as a tank; therefore, we disputed its use as armor.

[10]Ibid., p. A-9.

[11]Ibid., pp. A-3 and A-4.

[12]HQDA, FM 17-95, *Cavalry Operations*, GPO, Washington, DC, September 1996.

[13]HQDA, FM 3-20.96, *Reconnaissance Squadron,* GPO, Washington, DC, September 2006.

[14]According to the Maneuver Battle Lab at Fort Knox, there has not been an experiment using the ACR structure for at least 10 years.

[15]FM 17-95, *Cavalry Operations*, pp. 1-1 and 1-2.

[16]FM 3-20.96, *Reconnaissance Squadron*, p. 1-14.

[17]HQDA, FM 3-24, *Counterinsurgency*, GPO, Washington, DC, December 2006, p. 3-1.

[18]FM 3-20.96, *Reconnaissance Squadron*; and FM 17-95, *Cavalry Operations*.

[19]FM 17-95, *Cavalry Operations*.

[20]Ibid., p. 1-13.

[21]Ibid., pp. 1-13 and 1-14.

[22]FM 3-20.96, *Reconnaissance Squadron*; and FM 17-95, *Cavalry Operations*.

[23]Ibid.

[24]FM 3-20.96, *Reconnaissance Squadron,* p. 1-15.

[25]Each scout platoon can dismount up to four teams, which equates to 72 dismounted patrols.

[26]E-mail from Captain Steve Wojdakowski, Apache Troop, 1st Squadron, 3d Armor Cavalry Regiment, to Colonel Teeples, commander, U.S. Army Armor Center.

[27]According to FM 1-02, *Operational Terms and Graphics,* GPO, Washington, DC, 21 September 2004, economy of force is defined as one of the nine principles of war: allocate minimum essential combat power to secondary efforts.

[28]Battlefield surveillance brigade (BfSB) computer-assisted map exercise (CAMEX), February 2009; BfSB can collect information, but does not have the structure to conduct many of the tasks associated with reconnaissance.

[29]FM 3-24, *Counterinsurgency*, p. 1-26.

[30]Battlefield Surveillance Brigade (BfSB) Organizational and Operational (O&O) Plan, U.S. Army Training and Doctrine Command, 2007.

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Works of Dr. Ali al-Wardi

and bands of thieves to negotiate and pacify Iraq without a shot fired. As long as Nazim Pasha governed, security reigned in Baghdad and its environs.

Nazim Pasha was, however, removed in 1911 after being implicated in an amorous scandal with an Armenian woman, which led 20,000 Iraqis to protest the removal of a popular governor. Thousands of telegrams and petitions were sent to the Sultan and officers threatened to resign their commissions. It was to no avail; disorder, as well as tribal raids, returned to Iraq under the callous rule of Jamal Bey, the new Vali of Baghdad. Jamal Bey spent his entire governorship militarily subjugating the tribes. He used force only and not the subtle methods of Nazim Pasha, who worked with the clergy, cooperative tribes, and public works, in addition to force, to bring stability to Iraq.

Wardi's concluding chapter is a fascinating look at the several technological advancements that changed Iraqi society — the steamship, telegraph, automobile, postage mail, piston engine, printing press, newspapers and journals, hospital, and modern schools. The majority of these changes involved transport and communication, which minimized the country in terms of distance a person or idea could travel to, through, and out of Iraq. Wardi writes of how the telegraph was seen by some Iraqi tribesmen as being the spies of central Ottoman authority and sought to tear down poles. Others saw it as a means of sending grievances to Istanbul, with the practice of paying the telegraph operator extra for depressing the keys harder, thinking this would ensure the ability of the message getting through.

American military planners can learn much from this volume, understanding the strong influence that Shiite Marjas have on

Iraqi society and how Nazim Pasha brought peace to Iraq through a mixture of force, clerical interaction, and tribal diplomacy, to name just a few concepts explored. It is vital that Wardi's work be highlighted in today's intermediate and senior-level war colleges to equip America's military leaders with a nuanced understanding of the complexities of Iraqi society. The next exposé features Volume IV, which covers Iraq being the stage on which Ottoman and British forces fought in World War I.

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U.S. Army Field Manual 3-24.2, *Tactics in Counterinsurgency*

by Lieutenant Colonel David Fivecoat and Captain Stuart Chapman

In April 2009, the U.S. Army Training and Doctrine Command published U.S. Army Field Manual (FM) 3-24.2, *Tactics in Counterinsurgency*. This unclassified manual stresses a comprehensive approach to counterinsurgency operations by tying concepts of security, governance, economics, and information engagement together for brigades, battalions, and companies. The document brings to the forefront five key concepts to the practice of counterinsurgency by identifying counterinsurgency lines of effort (LOE), expanding on clear-hold-build operations, discussing the importance of securing the population during counterinsurgency operations, creating tactical-level planning horizons in counterinsurgency, and helping units better understand the enemy they are fighting through the components and manifestations of an insurgency. It also describes typical offensive, defensive, and stability operations in a counterinsurgency, as well as provides a framework to train and maintain host nation security forces.

FM 3-24, *Counterinsurgency*, does a superb job of crafting the Army's and Marine Corps' approach to counterinsurgency from the strategic to the tactical level. However, by attempting to cover from corps to squad levels, the U.S. Army failed to produce a current, practical manual for small units to use during counterinsurgency operations.

Until now, Army and Marine Corps tactical leaders used FM 90-8, *Counterguerrilla Operations*, published in 1986. However, FM 90-8 focuses exclusively on combat operations against guerrilla forces, and does not cover the other LOE, and misses more than 2 decades of doctrinal updates. Created from FM 90-8, FM 3-24, David Gallula's *Counterinsurgency Warfare: Theory and Practice*, Roger Trinquier's *Modern Warfare*, and the military's counterinsurgency experiences in Somalia, Kosovo, Afghanistan, Philippines, and Iraq, FM 3-24.2 fills the doctrinal gap for tactical leaders and units.

As a combined effort, many organizations contributed to the new FM 3-24.2. At the U.S. Army Infantry School, Major (Retired) David Frumerie, Major Jason Enyert, Captain Brad Velotta, Captain Stuart Chapman, and Lieutenant Colonel David Fivecoat wrote and edited the manual. Organizations from across the Army assisted with significant portions of the manual, including Fort Leavenworth's Counterinsurgency Center, Fort Leavenworth's Combined Arms and Doctrine Division, Fort Leavenworth's Joint Center for International Security Force Assistance, the National Training Center, the U.S. Army Armor Center, the Asymmetric Warfare Group, Fort Benning's Donovan Library, Fort Riley's transition team trainers, the U.S. Marine Corps, and tactical units both at home station and deployed. Finally, notable counterinsurgency specialists, such as John Nagl, Montgomery McFate, Benjamin Grob-Fitzgibbons, and Conrad Crane reviewed and provided information for significant por-

Figure 1. Seven counterinsurgency lines of effort.

tions of the book. Together, this collaborative effort has created a solid addition to the U.S. military's knowledge of counterinsurgency.

One of FM 3-24.2's foundations is the concept of counterinsurgency LOE. By combining FM 3-24's, *Counterinsurgency*, logical lines of operation; FM 3-0's, *Operations*, concept of LOE; and FM 3-07's, *Stability Operations*, concept of stability LOE, FM 3-24.2 creates a tool for units to link multiple tasks and missions using the logic of purpose — cause and effect — to focus efforts toward establishing operational and strategic conditions. The counterinsurgency LOE, establish civil security, establish civil control, support to host nation security forces, support to governance, restore essential services, support to economic and infrastructure development, and conduct information engagement, help commanders and units prioritize and synchronize actions over extended time, as well as assess the effectiveness of operations.

Although each LOE contributes to the defeat of an insurgency, some measure of civil security and civil control must be established prior to fully developing the other LOE. Since each insurgency is unique, FM 3-24.2 retains the flexibility for commanders to tailor LOE to their situation by combining LOE, such as economics and restoring infrastructure, or splitting a LOE, such as dividing rule of law from governance. The LOE provide commanders a means to achieve unity of effort, prioritize assets, balance actions to secure the population, establish a legitimate local government, and defeat the insurgency. Figure 1 depicts seven examples of counterinsurgency LOE.

Counterinsurgency Lines of Effort

A clear-hold-build operation is a full-spectrum operation that combines offensive, defensive, and stability operations in varying degrees during each phase. This type of operation was used successfully by the French in Algeria and French Indochina, where it was called "*tache d'huile*" (oil spot); by the British in Malaysia, it was known as the "Briggs Plan;" and by U.S. forces in Tal Afar, Iraq, it was described as a clear-hold-build operation.

In the clear phase, offensive operations usually dominate; in the hold phase, defensive operations are stressed; and in the build phase, stability operations are preeminent. However, in each phase the other two operations play complementary roles. For instance, in the hold phase, the
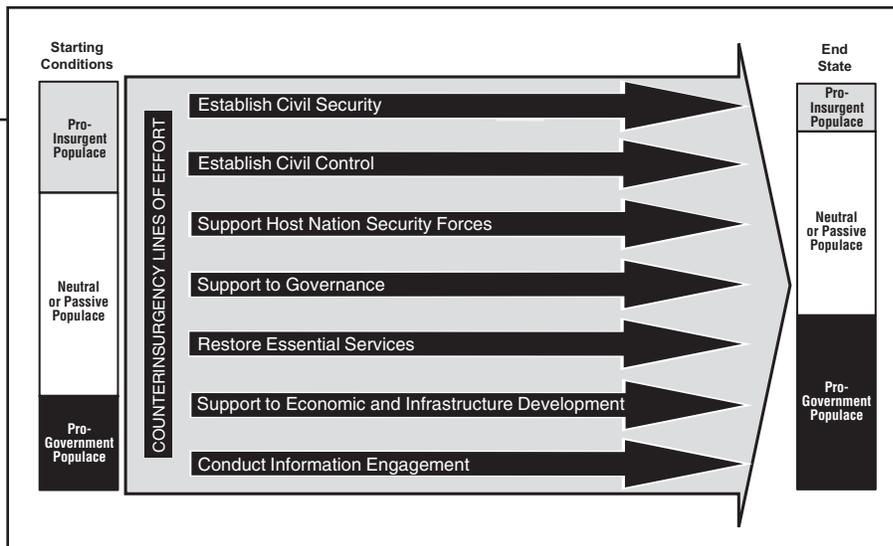
unit may focus its defensive operations on securing the population, while also conducting raids on insurgent leaders, as well as restoring a local well to provide water to the village. Figure 2 shows the change in the balance between offense, defense, and stability operations during a clear-hold-build operation.

Clear-Hold-Build Framework

Finally, FM 3-24.2 stresses the importance of securing the population through living forward in small bases, executing populace and resource control (PRC) operations, and conducting regular patrols to disrupt insurgent actions. *Tactics in Counterinsurgency* contends that the most important of these is properly locating bases for both U.S. and host nation security forces that provide security to the largest number of people possible, disrupt insurgent activity, and secure key locations and lines of communication. Often, these bases are located among the civilian population, much like a neighborhood police station. PRC operations are government actions that concentrate on protecting the

population and its materiel resources from insurgents, and denying insurgents access to the population and its materiel resources, while simultaneously identifying and eliminating insurgents. PRC operations could include enforcing curfews, establishing movement restrictions, maintaining check points, supervising a block or village committee, registering weapons, and rationing critical goods. Finally, reconnaissance or combat patrols collect information and provide security by disrupting insurgent operations.

FM 3-24.2 establishes a concept for planning horizons during counterinsurgency by blending the theories of FM 5-0.1, *The Operations Process*, and FM 7-0, *Training the Force*. Using long-range, mid-range, and short-range windows, *Tactics in Counterinsurgency* proposes brigade, battalion, and company planning timelines for each planning horizon. It also suggests a quarterly operations brief as an azimuth check on the progress brigades, battalions, and companies have achieved, as well as a means to encourage learning and adaption
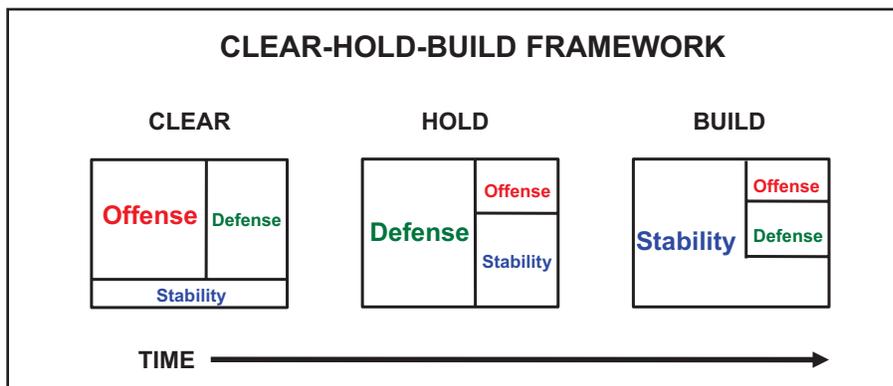

Figure 2. Change in balance between offense, defense, and stability operations during a clear-hold-build operation.

across the unit. For example, a brigade combat team might craft a 1-year long-range plan, a 3-month mid-range plan, and a 1-week short-range plan.

Despite 8 years of fighting insurgencies, the military has struggled with lumping the enemy into one large, amorphous group, be it "a few dead-enders," such as former regime elements, anti-Iraqi forces, al-Qaeda, anti-Afghanistan forces, or the Taliban. Just like politics, all insurgencies are local. Each group possesses its own characteristics and follows certain patterns. *Tactics in Counterinsurgency* helps soldiers categorize and understand insurgencies by encouraging an analysis of each insurgent group's components and manifestations. The three components of an insurgency — its five elements, the five groups of people that participate in an insurgency; its eight dynamics, eight categories that define an insurgency; and one of the six insurgent strategies that it is following — help leaders comprehend the organization they are battling. The three manifestations of an insurgency — tactics, strengths, and vulnerabilities — are the visible outputs of an insurgency that provide counterinsurgent units a way to develop the insurgency's patterns. Taken together, the components and manifestations help units reduce the uncertainty around an elusive enemy and defeat it.
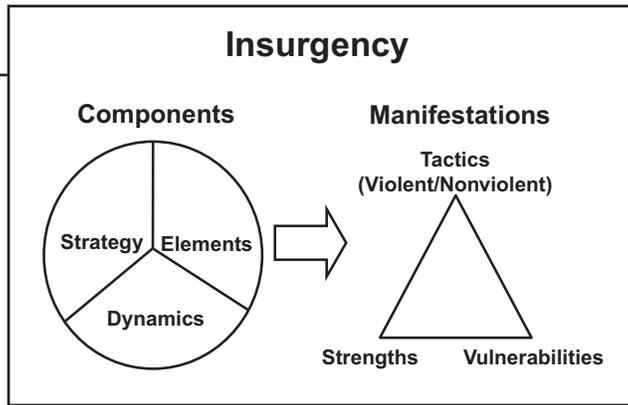

Figure 3. Components and manifestations of an insurgency.

The Components and Manifestations of an Insurgency

In addition to the five key practices, FM 3-24.2 provides a means to understand the operational environment; describes types of offensive, defensive, and stability operations conducted during a counterinsurgency; and discusses the training and mentoring of host nation security forces. The manual also illustrates the challenges and difficulties of conducting a proper intelligence preparation of the battlefield during a counterinsurgency. Furthermore, it explains tactical site exploitation, sniper operations, base defense operations, and company intelligence support teams. A short reading list of other counterinsurgency documents for leaders confronted with significant time constraints is also included in the manual.

FM 3-24.2, *Tactics in Counterinsurgency*, provides brigades, battalions, and companies a practical guide to achieving a comprehensive approach to successfully waging counterinsurgency operations over a significant period of time.

For tactical leaders, who may not have time to read the entire manual, focusing on the five key practices — the sections on counterinsurgency LOE, clear-hold-build operations, securing the population, planning horizons, and the components and manifestations of an insurgency, should prove particularly valuable. One reviewer commented, FM 3-24.2 "will be a great benefit to units in the field."
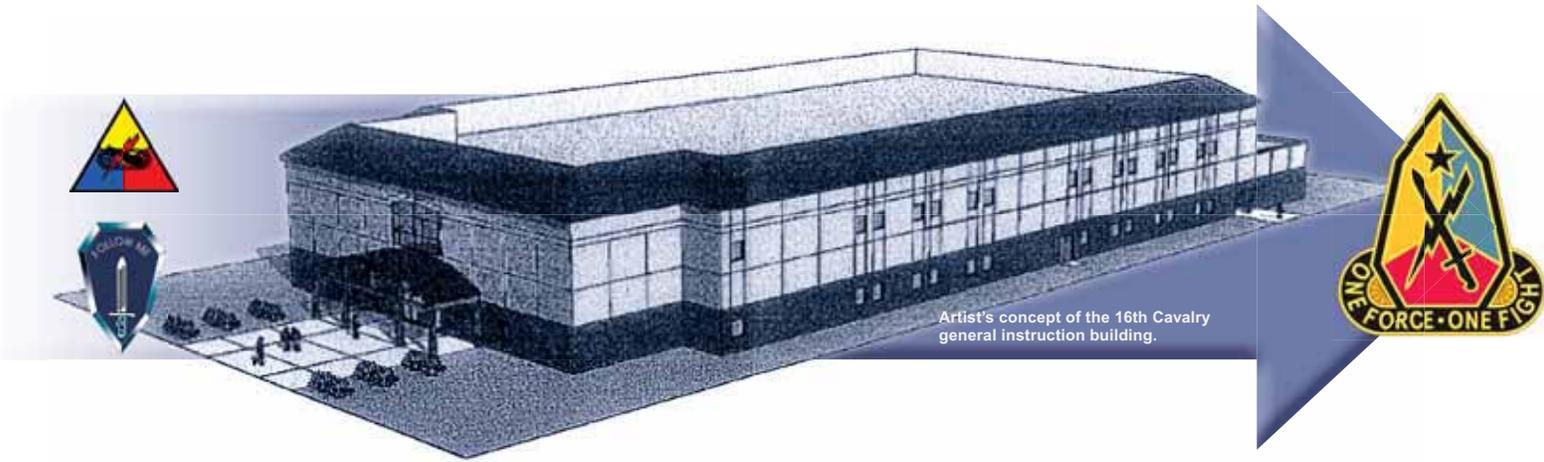
Lieutenant Colonel David G. Fivecoat is an infantry officer who served as the lead writer and editor for FM 3-24.2, *Tactics in Counterinsurgency*. Previously, he was deployed to Kosovo with the 82d Airborne Division; to Iraq with the 101st Airborne Division (Air Assault) for Operation Iraqi Freedom I; and to Iraq with the 3d Infantry Division during Operations Iraqi Freedom III and V. He currently commands the 3d Battalion, 187th Infantry Regiment, Fort Campbell, KY.

Captain Stuart Chapman is an infantry officer who served as a writer for FM 3-24.2, *Tactics in Counterinsurgency*. He was previously deployed to Iraq with the 1st Battalion, 23d Infantry Regiment, 3d Brigade, 2d Infantry Division, Operation Iraqi Freedom IV. He is currently attending Ranger School.

"Finally, FM 3-24.2 stresses the importance of securing the population through living forward in small bases, executing populace and resource control (PRC) operations, and conducting regular patrols to disrupt insurgent actions. Tactics in Counterinsurgency *contends that the most important of these is properly locating bases for both U.S. and host nation security forces that provide security to the largest number of people possible, disrupt insurgent activity, and secure key locations and lines of communication."*

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Artist's concept of the 16th Cavalry general instruction building.

Maneuver Center of Excellence Update
New Construction at Harmony Church for the Armor School

by Dan Nelson

This article begins a series of articles, which will be published consecutively over the next several editions of ARMOR that will provide an overview and discussion of ongoing construction efforts in support of the Armor School's relocation to Fort Benning. This article focuses on the area being developed to support the 16th Cavalry Regiment and unaccompanied permanent party soldiers assigned to the U.S. Army Armor School.
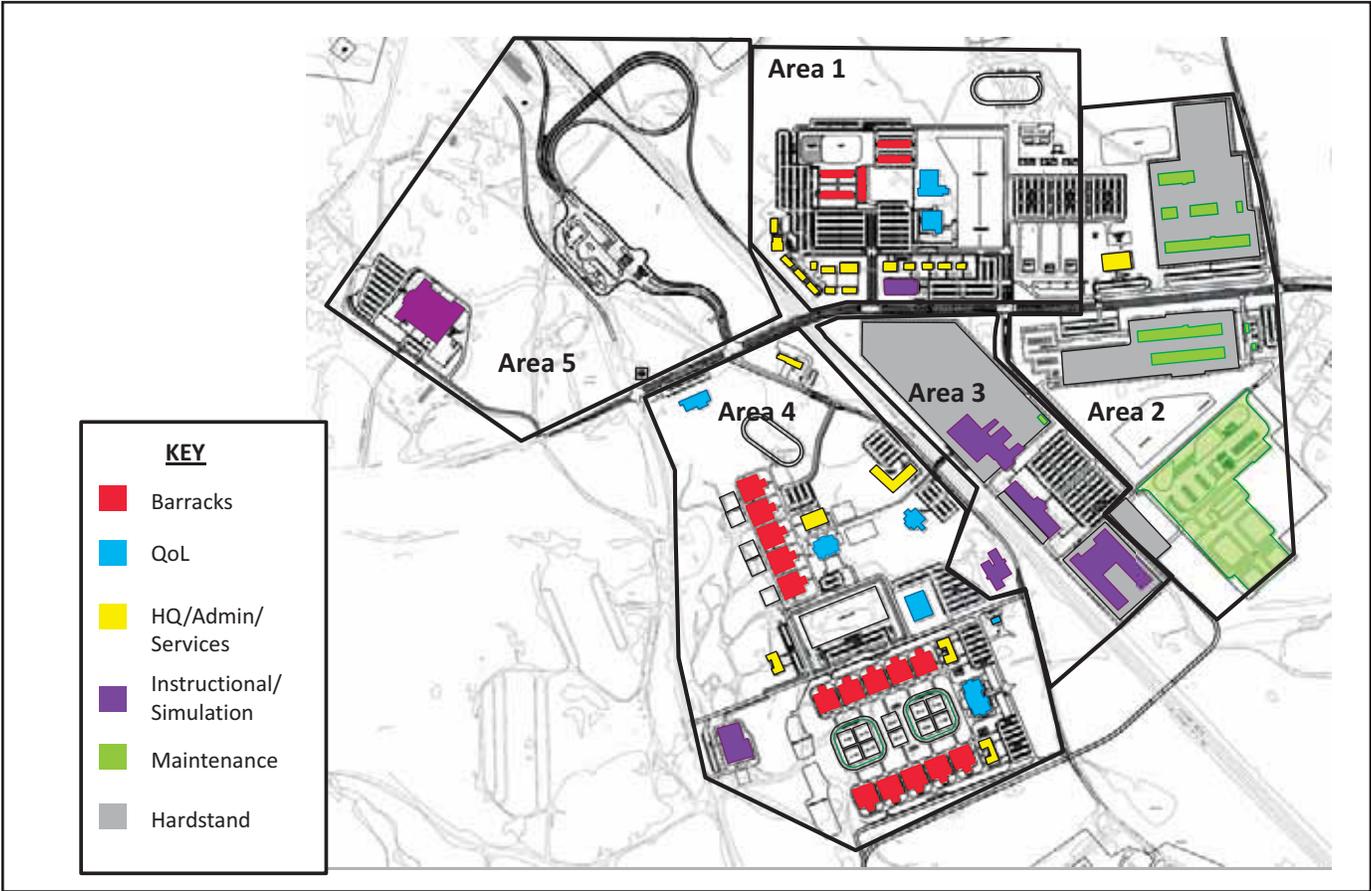

KEY

- Barracks
- QoL
- HQ/Admin/Services
- Instructional/Simulation
- Maintenance
- Hardstand

Figure 1. Harmony Church Development Plan

BUILDING DATA TABLE

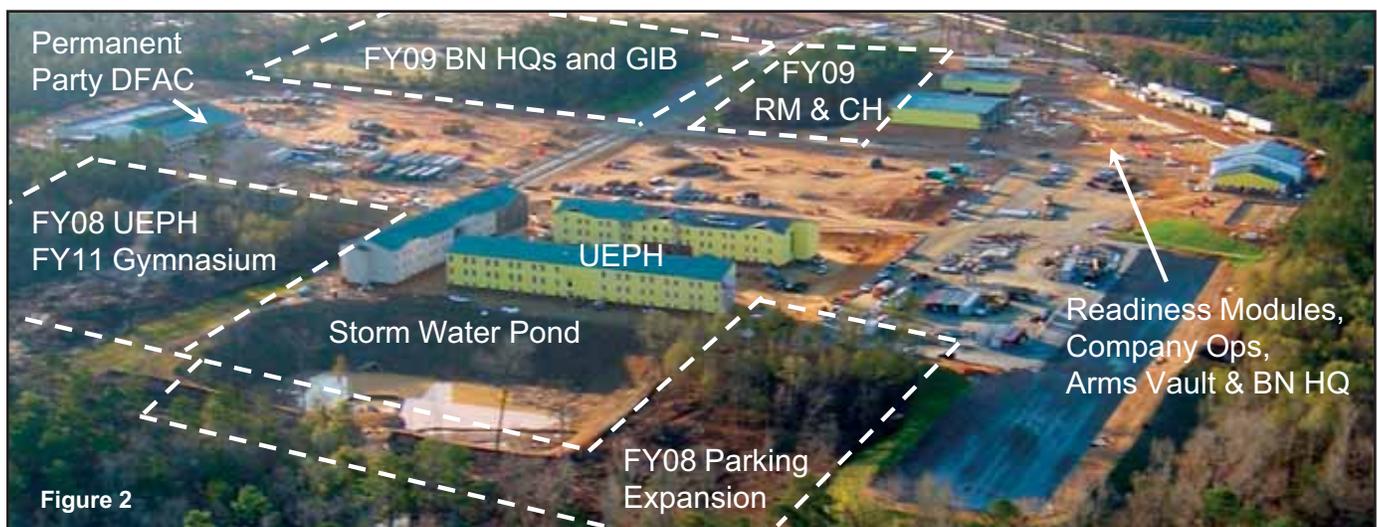| PN	Project Name	Building Description	FY	# OF BLDGS	Per BLDG (sq. ft.)	TTL BLDG. AREA (sq. ft.)	UNIT Supported
64459	Training Brigade Complex Phase 1	118 PN Barracks	07	1	15,293	15,293	Permanent Party UEPH
		112 PN Barracks	07	2	45,879	91,758	
		Storage Building	07	1	250	250	Lawn Maintenance
		CO Ops Facility (COF)	07	1	14,824	14,824	A, B, C/3-81 AR
		Battalion Headquarters	07	1	15,785	15,785	MARDET
		Storage Building	07	1	600	600	A, B, C/3-81 AR
		Dining Facility (DFAC)	07	1	26,450	26,450	Permanent Party DFAC
		CO Ops Facility (COF)	07	3	7,412	22,236	316th CAV
		Arms Vault	07	1	3,300	3,300	MCOE Weapons Storage
		Readiness Module (RM)	07	1	5,400	5,400	316th CAV
		Readiness Module (RM)	07	1	7,424	7,424	316th CAV
65862	Tng Bde Cmplx PH 2	124 PN Barracks	08	2	48,000	96,000	Permanent Party UEPH
65253	16th Cavalry General Instruction Complex	Covered Hardstand (CH)	09	1	10,125	10,125	316th CAV
		Readiness Module (RM)	09	1	7,000	7,000	316th CAV
		Battalion HQ (M)	09	1	11,983	11,983	1/316th CAV
		Battalion HQ (L)	09	1	13,730	13,730	316th CAV HQ
		Battalion HQ (S)	09	1	10,309	10,309	3/316th CAV
		General Instruction Building	09	1	68,470	68,470	BOLC III/SLC/CLC/ARC
65286	Armor Officer Basic Course	Battalion HQ (M)	09	1	11,983	11,983	2/316th CAV
		Covered Hardstand (CH)	09	1	7,000	7,000	2/316th CAV
65248	Physical Fitness Facility	Physical Fitness Facility	12	1	64,800	64,800	All
		Athletic Fields	12	1	2,327	2,327	

Table 1. Harmony Church Area 1 Construction Projects.

In 2005, as directed by the Base Realignment and Closure (BRAC) Act, the Armor School was directed to move to Fort Benning, Georgia. Shortly after the law passed, BRAC planners conducted an analysis of the available facilities at Fort Benning that could be used to support the Armor School. While Fort Benning has many state-of-the-art facilities and top-notch training areas, the study concluded that it lacks the excess capacity necessary to house and train the Armor School. Further analysis determined what would be required to correct the deficiency, which resulted in developing a significant number of construction projects for the Armor School. The Harmony Church area was chosen as the site for the majority of these projects due to its central location, existing road network, and availability of undeveloped ground. The U.S. Army Armor Center (USAARMC) commander directed planners to build facilities that equal or exceed the facilities currently in use at Fort Knox. The future home of Armor and Cavalry is to be built from the ground up.

On 12 February 2008, the USAARMC and U.S. Army Infantry Center (USAIC) commanders, held a ground-breaking cer-

Permanent Party DFAC

FY09 BN HQs and GIB

FY09 RM & CH

FY08 UEPH
FY11 Gymnasium

UEPH

Storm Water Pond

Readiness Modules, Company Ops, Arms Vault & BN HQ

FY08 Parking Expansion

Figure 2

The aerial view photo above shows the status of construction as of February 2009. As shown in the photo, the new dining facility is located in the upper left-hand corner; the three large buildings in the center are unaccompanied personnel housing; and in the upper right-hand corner are some of the 16th Cavalry facilities, including a battalion headquarters and two readiness modules. The woods to the left of the readiness modules will soon be cleared to allow for the construction of an additional readiness module and a covered hardstand. At the top left-center the old dog kennel will be demolished and trees will be cleared to make room for a general instruction building, three battalion headquarters buildings, and one brigade headquarters building.

BEDROOM
140 sq. ft.

BEDROOM
140 sq. ft.

LIVING
UNIT
SERVICE
AREA
166 sq ft

CLOSET
33 sq. ft.

CLOSET
33 sq. ft.

31 sq ft
BATHROOM

At left, a barracks at Harmony Church nears completion. The inset shows the floor plan for a typical two-soldier living space.

At right, the smallest of three readiness modules, which will be used to support the 16th Cavalry Regiment. Below, the interior of the largest module.

CONSTRUCTION AT HARMONY CHURCH

At left, the new 16th Cavalry permanent party dining facility at Harmony Church. Above, a view of the serving line, nearing completion.
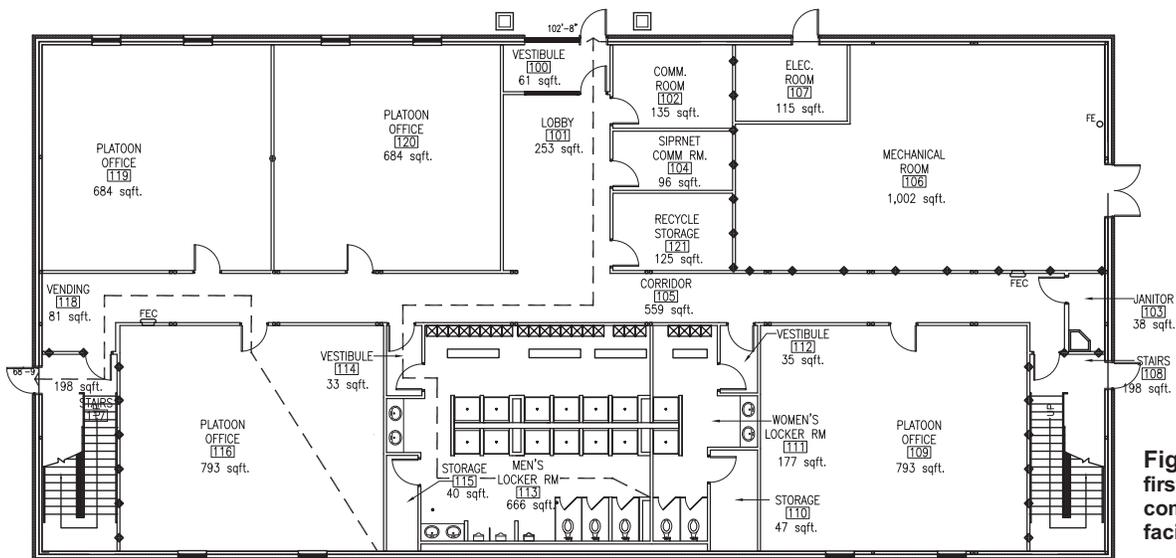
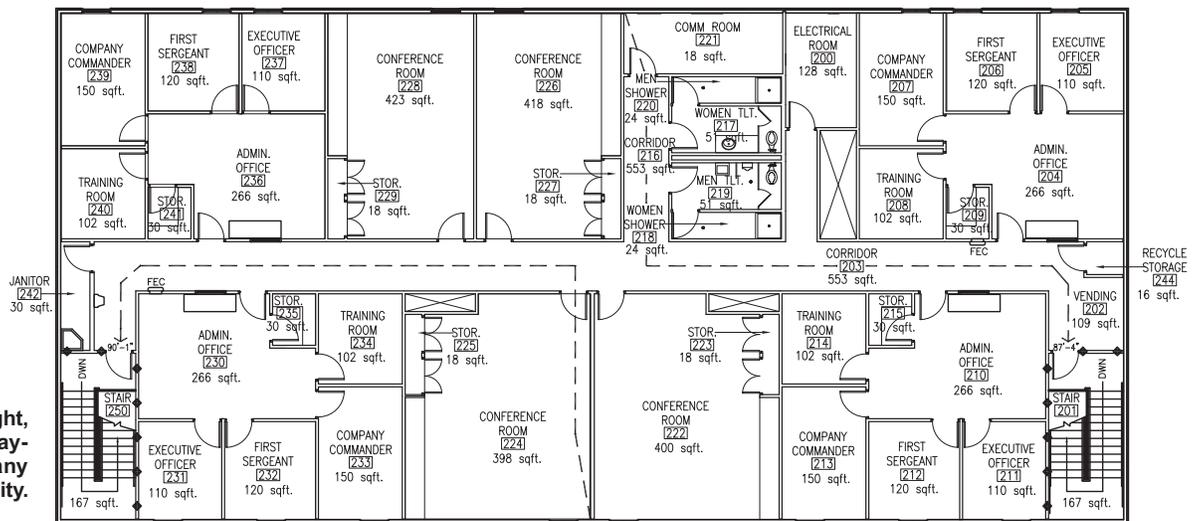**Figure 3.** At left, first-floor layout of a company operations facility.

Figure 4. At right, second-floor layout of a company operations facility.

A battalion headquarters nears completion adjacent to the foundation for the future company operations facility.

emony for the first of many projects, including barracks; physical training pits; fields and tracks; dining facility; headquarters/administrative building; instructional/simulation facility; maintenance facility; morale, welfare, and recreational facilities; and medical and emergency service facilities.

There are several projects scheduled at the Harmony Church area, which started in Fiscal Year (FY) 2007 and will run through 2012. The largest, both in terms of cost and area, is training brigade complex phase 1, which was funded in FY07 and is expected to be complete by the summer of FY10. The FY08 project, training brigade complex phase 2, has broken ground, but building construction is currently not underway. The two FY09 projects, the 16th Cavalry general instruction complex and Armor Officer Basic Course headquarters building, are currently in the design and permitting phases. Table 1 provides details on projects currently under construction at the Harmony Church area.

There are two building projects for unaccompanied soldier housing at Harmony Church; one project will build 342 billet spaces in three buildings, and the other will build 248 spaces in two buildings. All of the buildings are built around a standard two-soldier living unit (see photos on previous page). These barracks will provide our soldiers first-class accommodations within walking distance to duty locations, a new dining facility, and a state-of-the-art physical fitness facility. Later quality-of-life projects at Harmony Church will include Army and Air Force Exchange Service (AAFES), a coffee bar, a recreation center, and a chapel.

Permanent Party Dining Facility

The new dining facility, which is located adjacent to the barracks, is designed to feed 800 soldiers per meal in three seatings. It will include a short-order area, a private dining room that can be used to host visiting dignitaries, as well as a traditional dining room. Operational accommodations include full menu, short order, fast food, and remote feeding stations with self-service areas for beverages, salads, and desserts. The dining facility will serve breakfast, lunch, and dinner 7 days a week, 365 days a year. The site is designed to provide a centrally located, easily ac-

cessible dining hall for the future phases of the armor training brigade complex.

Company Operations Facilities (COF)

The company operations facilities project will complete four facilities, each designed to contain four individual company headquarters. Three of the buildings will be used by the 16th Cavalry and the fourth will be used by 3d Battalion, 81st Armor. The first floor of each building will have four large platoon offices, one per company, and male and female locker rooms (see Figure 3).

The second floor will house the four company headquarters; each will have individual offices for the commander, executive officer, and first sergeant, as well as a training office, a shared administrative office, and a conference room. Each building is 7,412 square feet in size and will be collocated with readiness modules and directly across from the arms vault (see Figure 4).

Each company operations facility is made of a series of modules, constructed off-site, and lifted into place by cranes to complete the framework. Once all the modules are in place, siding is installed. This construction system enables the contractor to provide a quality building at a reduced cost to the government.

Readiness Module (RM)

There are three readiness modules and two covered hardstands currently being constructed to support the 16th Cavalry Regiment, which will provide flexible training and storage space. Each readiness module contains a large open bay and caged areas for supply, nuclear, biological, and chemical (NBC), and communications equipment storage. The readiness modules vary in size, to include 5,400 square feet, 7,000 square feet, and 7,424 square feet, and all have 8-feet overhead doors.

Company operations modular units at Harmony Church.

Brigade and Battalion Headquarters

The largest of the five battalion/brigade headquarters is currently being built adjacent to the company operations facility site. The four remaining headquarters will be built during the FY09 program year. The 16th Cavalry Regimental headquarters building has not yet been designated from among the five buildings being built for the regiment and the Armor School's U.S. Marine Corps detachment headquarters (MARDET).

Arms Vault

The arms vault under construction at Harmony Church is similar to the one currently used by the regiment adjacent to Mansfield Motor Pool at Fort Knox. This facility will be 3,300 square feet in size and divided into two areas.

General Instruction Building (GIB)

The centerpiece of construction is the general instruction building, which will house the Basic Officer Leadership Course III (BOLC III), the Scout Leader Course (SLC), and the Cavalry Leader Course (CLC). This 68,470 square feet facility is part of the FY09 construction program currently under design by the winning contract firm. In addition to space for both large- and small-group instruction, the facility will house a 200-person auditorium, instructor offices, and a large network operations center to support information technology (IT) requirements for the Armor School.

While there is remaining work to be done to complete construction, the work completed to date for the movement of the Armor School is impressive. The facilities at Harmony Church fully meet the USAARMC commanding general's original guidance to build quality facilities equal to or better than those currently used by Armor and Cavalry soldiers at Fort Knox. Future articles will look at the new 19D/K one-station unit training (OSUT) cantonment area, the vehicle maintenance instruction buildings, simulations facilities, and new ranges and training areas, which will support heavy maneuver training.

Mr. Daniel C. Nelson is an associate with Booz Allen Hamilton serving as a strategic planner for the U.S. Army Armor Center and School BRAC relocation and transformation task. He is responsible for project planning, design review, and construction oversight of facilities being built at Fort Benning in support of the Armor School move. In 2006, he retired from U.S. Army Corps of Engineer as a lieutenant colonel.

The CROWS: Gaining Combat Effectiveness

by Debi Dawson, PEO Soldier

Mounted soldiers count on the safety that layers of armor and high speeds provide; however, these advantages disappear as soon as they dismount. This is especially true for soldiers who operate machine guns mounted on combat vehicles. To address high-risk exposure for soldiers and enhance and expand the capabilities of vehicle-mounted machine guns, the U.S. Army developed the common remotely operated weapons station (CROWS).

The CROWS consists of a weapons station, which is attached to the vehicle's exterior. The weapons station is controlled and fired from within the safety of the vehicle, allowing soldiers to engage targets without being exposing. The system provides the defensive and operational capabilities of an externally mounted machine gun, while protecting soldiers from threats such as snipers, indirect fire, improvised explosive devices (IEDs), and rollovers.

From within the vehicle, an operator aims and fires the CROWS with a joystick, using a video feed from either the day camera or thermal camera to aim the system. This allows soldiers to accurately engage enemies in day or night conditions. A laser range finder provides accurate range to the target for accurate first-hit engagement. The three axis stabilization of the CROWS provides both stationary and on-the-move target acquisition and engagement.

Four weapons can be mounted to the CROWS system: the MK19 grenade machine gun, the M2 .50-caliber machine gun, the M240B machine gun, or the M249 squad automatic weapon. The system has been fielded in support of Operation Iraqi Freedom (OIF) on the Buffalo and RG31 route clearance vehicles, as well as the M1151 high-mobility multipurpose wheeled vehicle (HMMWV).

There will soon be more than 400 systems fielded in support of Operation Enduring Freedom (OEF). All of which are fielded by Program Executive Office (PEO) Soldier, the Army acquisition agency that develops, acquires, and fields nearly everything soldiers wear or carry. The improvements to soldier safety, as well as increased capabilities afforded by the CROWS, are indicative of PEO Soldier's commitment to troops on the ground.

The first CROWS system, the XM101, has been upgraded to the XM153, which is lighter and more reliable than its predecessor. Featuring enhanced stabilization, auto tracking, auto focus, and auto lead, the XM153 builds on the successes of the XM101 by expanding the capabilities of the system.

The improved safety of the mine resistant ambush protected (MRAP) vehicle made an obvious pairing with the CROWS system. The combination of the CROWS and the MRAP provides a high degree of protection for soldiers while expanding their ability to acquire, engage, and defeat the enemy. CROWS will be used primarily on MRAP vehicles, but other platforms are planned as well.

Because of the CROWS' success and popularity on wheeled vehicles, the system is also being modified for use on the M1A2 Abrams tank, which is expected to be complete in early 2010. As a component of the tank urban survival kit (TUSK), the CROWS will replace the tank commander's gun mount. Without the CROWS, tank commanders are exposed to enemy fire when providing machine gun support. Attempting to operate the machine gun could be especially dangerous in urban situations, such as those experienced during OIF, where tanks were fired on from close proximity without warning.

As with all new technology, soldiers require new equipment training (NET) to make the most of the CROWS' capabilities. The training takes up to 40 hours to complete and consists of a mix of classroom, simulator, practical exercise, and range-fire training. The classroom portion of CROWS training covers maintenance, troubleshooting, weapons interfacing, boresighting, and comprehensive hands-on use.

To better prepare soldiers, a device called the "appended trainer" is being used to supplement classroom training. Unlike stand-alone simulators, the appended trainer is attached directly to a CROWS system mounted on a vehicle. With the appended trainer, neither the weapon nor the vehicle move during training. Instead, simulated video is piped to the CROWS, allowing the soldier to become familiar with the operations and capabilities of the system without the need for live fire. The ability to conduct this type of training in the natural environment and confinement of the vehicle significantly improves the effectiveness of the training. The appended trainer is especially helpful when access to live-fire ranges is limited, as is the case in Iraq and Afghanistan.

The CROWS is not only a powerful piece of warfighting technology, it is relevant to the needs of soldiers in the field. It increases soldier effectiveness, survivability, and lethality. The accuracy of the system minimizes collateral damage and reduces the logistics footprint. With its outstanding record of performance in the field, and plans for its continued development and expansion, the CROWS is one of the most valuable systems in the field today — as a proven force multiplier, it has saved lives.

For more information on PEO Soldier programs, visit our website at *www.peosoldier.army.mil*.

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