Infantry

January-February 2004
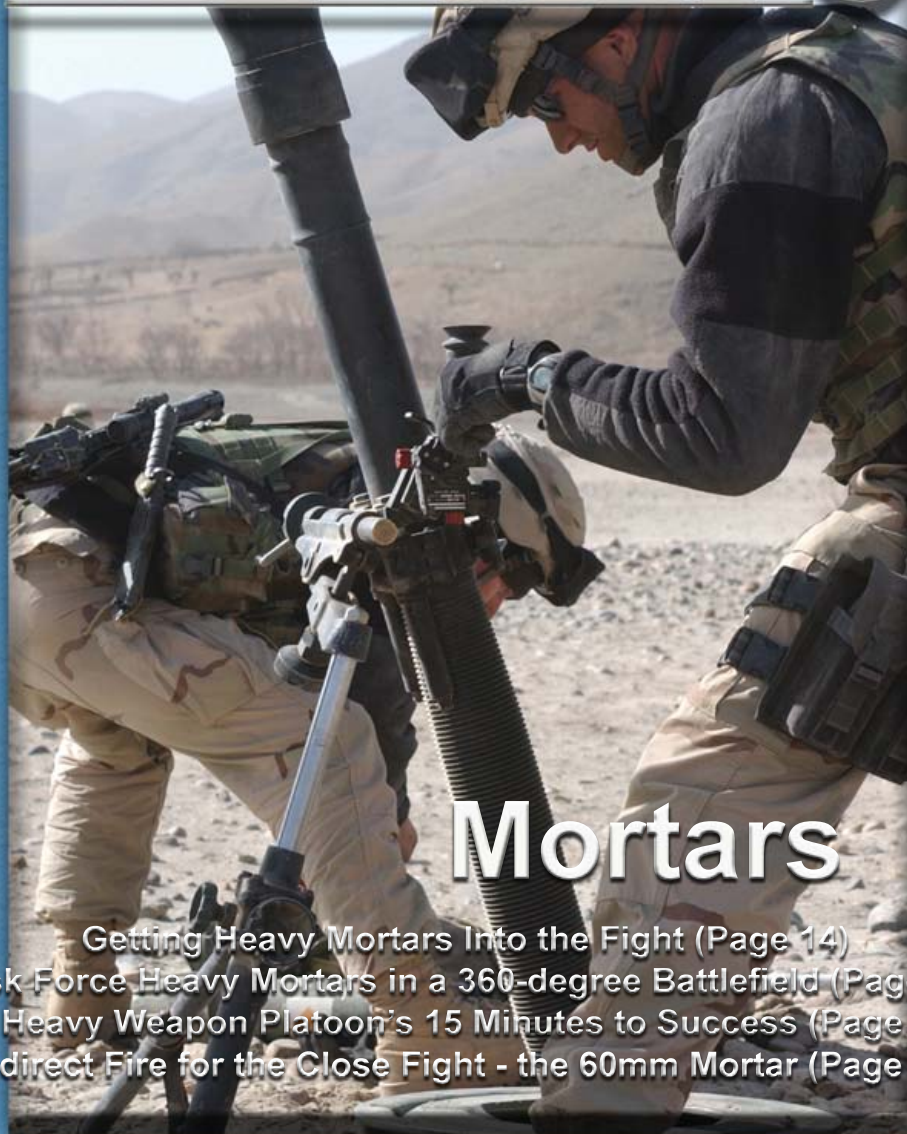
Mortars

FRONT COVER:
Private First Class Jonathan Morgan uses the sights to align the mortar while Private First Class Gary Barrett maneuvers the tube during a mission in Afghanistan. The Soldiers are with Headquarters and Headquarters Company, 2nd Battalion, 22nd Infantry Regiment of the 10th Mountain Division. (Photo by Sergeant Horace Murray)

BACK COVER:
Soldiers from the 5th Battalion, 20th Infantry Regiment, conduct a mission in Samarra, Iraq. (Photo by Specialist Clinton Tarzia)

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Infantry

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Commandant's Note

BRIGADIER GENERAL BENJAMIN C. FREAKLEY

MARKSMANSHIP — THE WARRIOR'S EDGE

"The importance of well-trained infantry as the prime essential to military success can hardly be overestimated. Infantry capable of meeting the requirements of modern war can be created only by the most painstaking and intelligent instruction of the individual and all that pertains to the duties of the Soldier. The neglect of any phase of his training may cause disaster."
— **General John J. Pershing**

W hen he commanded the American Expeditionary Force in France during World War I, General Pershing cabled the War Department, saying: "Send me men who can shoot…," a theme he often stressed in his cables because he considered infantrymen arriving in France to be poorly trained in marksmanship. General Pershing recognized that the rifle is the infantryman's essential weapon, and insisted that American Soldiers be able to hit targets at a range of 600 meters. That sentiment is as crucial to the profession of arms today as it was six decades ago, as our infantrymen are once again engaged, fighting the global war on terrorism. We are a nation and an Army at war, and the way the Infantry closes with and destroys the enemy will ensure our continuance as a powerful and free nation.

The last Commandant's Note discussed Warrior Ethos and the three-pronged strategy for implementation: Warrior Skills, Warrior Culture, and Mental and Physical Toughness. This month, the focus is on the skill fundamental to an infantryman's success in combat and his very survival: rifle marksmanship. The Warriors who are the spear point of our nation's defense are the best-trained, best-equipped, and most lethal we have ever fielded, and that is largely because they are the most aggressive and the best shots on the battlefield. The strengths of the Infantry's riflemen lie in the basic and fundamental skills we teach them; in the reflexive fire training they get to prepare them for the one-on-one, close-quarters firefight; in their ability to kill the enemy at long-range; and in the collective fire exercises that train units to focus massed firepower against the enemy.

As we consider all of the Soldier's combat equipment, his individual weapon stands out as the symbol that designates him as a warrior. It is his basic tool in trade and he must be so well trained in its use that it is an extension of the Warrior. Institutional marksmanship training begins with One Station Unit Training (OSUT). The good shooting techniques taught here provide the foundation for further enhancement of an infantryman's shooting skills when he joins his unit, and he continues to develop and reinforce them throughout his career. He enters combat confident that he can outshoot his opponent and aggressively seeks out and kills the enemy, as our adversaries in Iraq and Afghanistan have discovered. A majority of recent infantry engagements have been at 50 meters or less. The likely scenario for future combat will include quick, accurate reflexive reactions against a close, well-camouflaged, asymmetric threat, and we are training OSUT Soldiers in reflexive firing techniques. It is our responsibility as leaders to ensure that the American infantryman is the deadliest Soldier on the field of battle and that our enemies understand that.

Today's adversaries are capable of delivering a high volume of fire against us with assault rifles, but they often do so at the cost of accuracy. This is particularly true at the longer ranges, and a seasoned combat veteran learns to return precise, aimed fire on the enemy. Combat experience in two wars against the best of the Iraqi army and in Afghanistan, in terrain ranging from the close-quarters combat of cities to the extended-range engagements of the desert and mountains, has shown that the American infantryman consistently engages and kills the enemy at ranges exceeding 300 meters, when he is properly trained. Depending upon their skills, our snipers with the M24 system can routinely engage targets out to 800 meters and beyond, and the M107-equipped sniper can engage vehicle-sized targets out to 1,800 meters, but the lion's share of our small arms firepower lies in the hands of those infantrymen who carry the M16 rifle and the M4 carbine, and that is where we want to concentrate.

Despite our experience-driven focus on reflexive close-range

firing techniques, and regardless of the environment in which the Soldier finds himself, there will always be a need for squad designated marksmen (SDM) who can cover gaps and terrain not otherwise covered, out to the maximum effective range of his weapon. We have the rifles and the ammunition to reliably and consistently make the long shots, and we have the Soldiers who can do it as well. Many of our Soldiers have already proven that they can kill their enemy at ranges beyond those for which they were trained in service schools and at home stations. The M16- and M4-series weapons have maximum effective ranges of 550 and 500 meters respectively, and we are taking advantage of the potential for increased long-range lethality to train our infantry to kill the enemy at maximum ranges.

We know that snipers — regardless of their skills — simply cannot be everywhere at once or simultaneously engage the volume of targets an enemy can present. Our infantry must do that, and do it effectively. One step in this direction is the squad designated marksman (SDM). It is our task to build upon a rifleman's primary trained skills and teach him to perform a secondary — and vital — role as an SDM, and the 29th Infantry Regiment is accomplishing this task. The SDM learns to understand the enhanced levels of marksmanship, master his assigned weapon, and to deliver precise fire on the enemy. Over the five-day course of instruction, each student shoots over 2,500 rounds of ammunition and is taught to shoot every round as if it were his last. He learns to estimate the range of the enemy out to 550 meters. He graduates with the knowledge and teaching aids to pass on to his fellow Soldiers the skills he has learned, and can assist units in establishing their own SDM programs. We are also incorporating discussion of the SDM into our platoon and company Field Manuals. This is why marksmanship skills are steadily improving across our infantry battalions, and why insurgents in Iraq and Afghanistan are becoming increasingly reluctant to openly engage U.S. infantrymen.

But the squad designated marksman training that is outlined is only one of the initiatives underway at Fort Benning to increase the lethality of the Infantry. The United States Army Marksmanship Unit (USAMU), long the leader among international and interservice competitive shooters, is supporting and sustaining our marksmanship initiative in a number of major areas. USAMU is offering advanced rifle and pistol marksmanship training at Fort Benning, training units at their home station, deploying in-theater Mobile Training Teams, and provides the new exportable Squad Designated Marksman Instructor Course beginning in December 2004. USAMU has presented programs of instruction at seven CONUS installations, including 24 train the trainer classes to drill sergeants at Fort Benning, Fort Jackson, and Fort Leonard Wood. They have also trained U.S. Army snipers in Bosnia and presented an introduction to small arms close quarters battle marksmanship to all 11 forward operating bases of the 1st Armored Division in Iraq. USAMU has also developed modifications to the M16 that provide exceptional accuracy and combat reliability and has designed a Special Purpose Rifle used by the United States Special Operations Command. Even during the years when the primary focus of the USAMU was on marksmanship competition, the knowledge they gained toward improving the reliability and accuracy of their weapons resulted in a number of product improvements to the weapons and ammunition that have served all Soldiers so well in three recent wars and other actions around the world.

The marksmanship training of the type outlined requires us to commit resources to achieve our goal. Our Army Chief of Staff, General Peter J. Schoomaker, has observed that, "One way you know if your organization is ready for war is how much ammunition you shoot." The 2,500 rounds expended in training each of our squad designated marksmen is a good example of our commitment to training the marksmen, and we must continue our momentum in this direction. That is why we train ourselves and others to deploy, engage, and destroy the enemies of the United States of America in close combat. And we do it with disciplined, tough Soldiers who can shoot.

Follow me!

SLING ARMS: NOT ALWAYS THE BEST BET

The convoy jolts along the dirt road, black-out lights picking out its uncertain advance in the pitch-black night. Suddenly there is an explosion, and then the flash of several RPG- 7s and small arms tracers light the convoy's eastern flank. Some vehicles speed out of the kill zone while others slam to a halt to return fire and let their infantry dismount. The infantrymen grab their weapons and stumble into the confusion of a close fight. This is the first engagement for one young private, and he is concentrating on doing everything right. He holds tightly to his M16 as he jumps to the desert floor. He sees his squad mates moving in the direction of the firing and runs in that direction. He doesn't see the narrow ditch ahead and falls three feet down inside it. As he is trying to get up and regain his orientation, a grenade rolls into the ditch. The blast picks him up and tosses him out of the ditch. He's bruised and confused, but apparently there are no serious injuries. Belatedly he tries to switch on his NODs, but it is not working. And his M16 ... Where's his weapon? He's in his first fire fight and he

does not have his weapon!

Daily, the television news shows U.S. infantrymen patrolling or guarding sites in Iraq and Afghanistan. Their slings dangle uselessly under their weapons as they remain at the ready position surveying the passing vehicles and populace. They may remain at the ready position for four or more hours at a time. That is a long time to stay alert and still expect cramped arm and shoulder muscles to respond in an emergency. Other nations, and U.S. Special Operations Forces (SOF), have solved the problem of keeping a weapon ready for instant use without wearing out the infantrymen. Their solution — using an "assault sling" or similar device which keeps the weapon slung across the chest, ready for instant use, but freeing the infantryman's hands and shoulders until needed. The M4 carbine has a hands-free sling that is very convenient. The basic infantry weapon, the M16, has a sling that is basically the same design that U.S. infantrymen used when fighting Mexico in 1846. That sling has long supported the musket, rifle, automatic rifle and assault rifle on the shoulder of the U.S. infantryman. Granted, it is hard to stack arms on the parade ground without the current sling, but does that make it the optimum sling for today's infantrymen?

During trips to Afghanistan and Iraq, I have noticed that infantrymen have come up with

their own solutions (as usual). Some have rigged makeshift, hands-free slings with parachute cord. Others improvise their own across-the-chest slings from their regular sling by looping it through the front sight and then using paracord and heavy duty tape to attach it to the rear stock. Others dangle it straight down on their side using a strap to attach it to their LBV (load-bearing vest) or camelback® strap. However, these efforts disappear with the first order to "get everybody straight and uniform." Many Soldiers dig into their own wallets and buy commercial assault slings. Instead of having Soldiers buy commercial "assault slings" or improvise their own, it is time to investigate the merits of such slings, determine which one is best and then issue it to combat troops. There are several types available that should be considered. The "Chalker® sling" is used widely by the U.S. SOF community. It includes a body harness to which a weapons strap is attached. The "Snap Shot®" assault sling keeps the weapon slung across the chest and an elastic keeper strap holds it close to the body when the firer takes his hands off of it. The "Mamba®" is similar. A quick search on the Internet shows some 20 more types.

The infantryman needs to have his weapon ready and retrievable if knocked from his hands. A hands-free, across-the-chest sling is the answer for many other armies. Our Army should also consider adopting one. With all the emphasis on expensive high-technology, the Army should not be too busy to look at low-tech concerns that will help the infantryman do his job.

— LESTER W. GRAU
Retired Lieutenant Colonel, U.S. Army
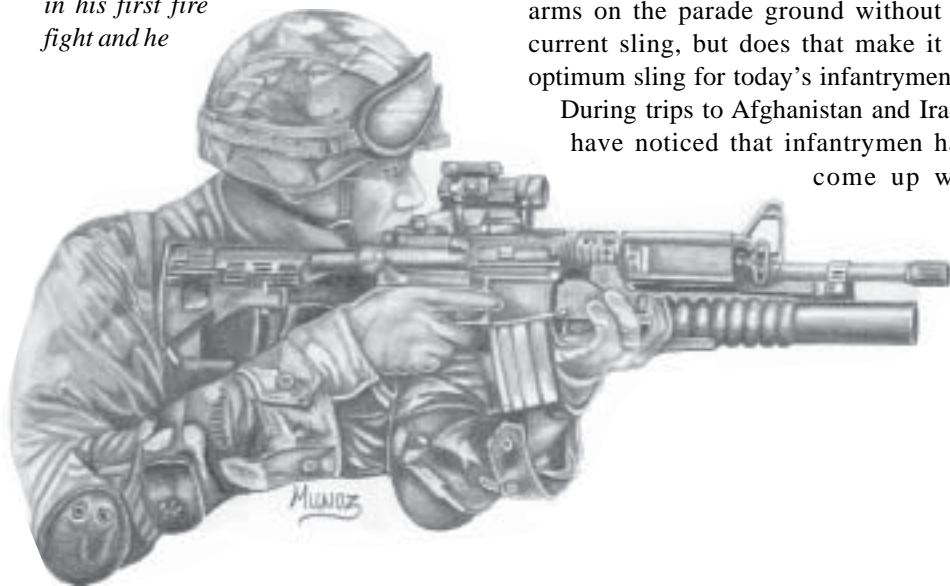
Cases of Weapon Sabotage Reported

Two seized rifles found with holes drilled in barrels

On February 3, the Office of Special Investigations (OSI) responded to the Combat Arms Range located at Hurlburt Field, Florida, in response to possible weapon sabotage.

The U.S. Air Force Special Operations School (SOS) reported that a weapon seized in Iraq had malfunctioned during test firing. The weapon, a Dragunov SVD rifle (7.62mm), NSN 1005-PSVD, had been seized from Iraq and forwarded to the SOS for use in familiarization training in the Dynamics of International Terrorism Course.

The weapon was shipped from Ali Al Salem Air Base, Kuwait, with all the appropriate clearances and inspections. On February 3, personnel from the SOS test fired the Dragunov SVD at a small arms range on Hurlburt Field.

During the test fire, the weapon was secured in a vise and remotely fired. Immediately upon firing, the handguards appeared to explode off the weapon. During the test fire, gas pressure was released from a hole in the barrel concealed by the handguards. The release of pressure resulted in the destruction of the handguards. Pieces of the handguards were projected up to 30 feet from the weapon. An examination of the weapon revealed the barrel of the weapon had been intentionally altered to injure the person firing the weapon. A small hole, approximately one-eighth of an inch wide, was drilled through the barrel approximately two inches forward of the chamber area.

Weapon 1 (Hurlburt)

Pieces of the handguards were found up to 30 feet from the weapon

Hole drilled in barrel

Due to the school's safe test fire procedures, no one was injured. The weapon had Arabic writing, later translated as "war machine," engraved on the left side of the upper receiver. The numbers 331 and 2003 were stamped below the engraving.

A telephonic interview with the point of contact (POC) from the area of responsibility (AOR) where the weapon originated, it was determined the cache also contained three AKM rifles and one additional Dragunov. To his knowledge the AKM rifles had been destroyed, and the Dragunov was scheduled to be destroyed.

At the direction of AFOSI, the POC at the AOR inspected the second Dragunov and discovered it had also been modified. The weapon had a hole drilled into the barrel. The hole was similar in size and location to the hole found in the first weapon.

Two Dragunov SVD rifles seized in Iraq were found with holes drilled in the barrels. One of the rifles was being test fired when the handguards appeared to explode off the weapon. Below is a close up of the hole that caused the malfunction, which could have caused injury to the person who fired the weapon.

Hole drilled

GI Bill Can Be Used for OJT, APP Training

Most veterans know they can use their GI Bill to pay for the costs of education. However, many are unaware they can also receive up to $12,988.98 tax-free education benefits during a 24-month program of On-The-Job (OJT) or Apprenticeship (APP) training.

On-The-Job Training and Apprenticeship Programs offer recently hired veterans and other eligible persons an alternative way to use their Department of Veterans Affairs (VA) GI Bill education benefits. Under OJT or APP, veterans learn skilled occupations by performing each job process described in a training outline. This is accomplished under the supervision of a skilled worker. While training, eligible participants receive monthly education benefits from the VA.

These programs may be approved in a wide variety of occupations. Some are in trades that relate to military occupations, but many are not. Currently approved programs include correctional officer, prosthetics technician, diesel mechanic, beautician, forest ranger, and many others. Additional programs can be created if needed.

Employers also benefit from these programs. The OJT or APP program is an excellent way to attract and retain well-disciplined employees.

Employers direct the training, thereby ensuring the veteran becomes familiar with work processes as defined by the employer, equipment to be used upon completion of training, and company policies. There are no direct payments to employers under these programs. Payments made directly to the veteran are intended to serve as a salary supplement during the period of training.

To receive GI Bill benefits while training in an OJT program, a veteran must work full time. Full time as applied to OJT means that the standard workweek is not less than 30 hours (120 hours per month). The training establishment can be a sole proprietor business, a partnership, a corporation, a city, county, or state government office. The employer must agree to establish and document the OJT program. The employer is the person or organization responsible for the training, record keeping, and reporting; however, these tasks are made simple and easy by the State Approving Agency (SAA).

If a veteran recently began a new job, or has been promoted, it may be advantageous to look into OJT and discuss it with his or her employer. Training can be for a minimum of six months' and a maximum of two years' time.

For additional information about On-The-Job or Apprenticeship training programs, contact the State Approving Agency in your state. A list of SAAs can be found at www.gibill.va.gov/education/SAA.htm. If you have questions about eligibility, contact the Department of Veterans Affairs at 1-888-442-4551.

Small Arms Championship Set for March

PAULA J. RANDALL PAGÁN

The U.S. Army Marksmanship Unit (USAMU) will host the All-Army Small Arms Championships in conjunction with the U.S. Army Infantry Center March 14-25. The last All-Army Championships were in 1994. Soldiers and units will compete with the M16 rifle or M4 carbine, M9 pistol and M24 or M14 rifles against counterparts from the regular Army, Reserve, National Guard and Cadet Command.

"The advanced shooting experience gained in these challenging matches will translate into better trained and confident Soldiers, ready to meet the challenges of the global war on terrorism," said USAMU Commander Lieutenant Colonel David J. Liwanag. "These championships are the pinnacle of in-service Army competitive marksman-ship training."

Soldiers who excel in the All-Army Championships may be selected to compete on the Army, Army Reserve or National Guard Rifle and Pistol Teams in the Interservice and National Championship competitions. Winners of designated matches and classifications may be awarded Secretary of the Army trophy rifles.

Rifle matches will be shot at ranges from 200 to 500 yards. Pistol matches will be fired under combat time standards at seven to 25 yards. All firing will be done with helmet and individual combat gear (minus body armor and mask). Long-range matches will be fired at ranges of 600 to 1,000 yards.

Soldiers of all military occupational specialties from around the Army as well as U.S. Military Academy and ROTC cadets will be competing in the event.

More information about the All-Army Small Arms Championship and the U.S. Army Marksmanship Unit can be found on the Web at www.usarec.army.mil/hq/amu.

New Stryker Defense Proven in Combat

JIM GARAMONE

A change made to the Stryker infantry vehicle has proven itself in combat.

The Stryker, an eight-wheeled infantry transporter, is an armored vehicle designed to stop 14.5 mm rounds. Critics said the main threat in Iraq is rocket-propelled grenades, and that the vehicle would not provide protection from them.

The 3rd Brigade, 2nd Infantry Division – also called Task Force Olympia after its Fort Lewis, Washington, home — is a Stryker brigade currently deployed to Mosul, Iraq. The unit replaced the 101st Airborne Division (Air Assault) in this city.

Army officials outfitted the Strykers with what the Soldiers call a "cage." The slat armor put on the vehicles in Kuwait does look like a cage. It encircles the vehicle and gives added protection to the body of the Stryker. It is slats placed about 18 inches away from the main body. The theory was that an RPG would hit the slat and "defuse" between the slat and the main armor, said Brigadier General Carter Ham, the brigade commander.

The theory was exactly right, he said. "A bit earlier this morning there was an RPG attack against a Stryker vehicle in the eastern part of Mosul," he said to reporters traveling with Deputy Defense Secretary Paul Wolfowitz. "It was the second attack against a Stryker, but the first to strike the slat armor.

"It did exactly was it was intended to do," he continued. "When the round impacted on the slat armor, it detonated the warhead. The round defused in that space."

There were no casualties of any kind, he said, and there was "very, very minor damage to the vehicle."

The crew continued its patrol. The patrol was conducting neighborhood engagement, interacting with local citizens.

The crew identified the assailant and tried to call an OH-58 helicopter in on it, but the helicopter crew was unable to regain contact with the assailant.

It was a typical "drive-by" shooting, Ham said. A car drives up about 100 meters away, a gunner pops out of the window or the sun roof and fires the weapon, and the car speeds away.

"We're not surprised the slat armor worked the way it was intended to, and we continue to have great confidence in the Stryker vehicle," Ham said.

All of the 300-plus Strykers in the brigade have this cage.

Personal Cooling Systems Become Smaller

Every Soldier will carry some high-temperature relief when a microclimate cooling system is incorporated into the upcoming Objective Force Warrior uniform.

Microclimate cooling has been researched and developed at the U.S. Army Soldier Systems Center in Natick, Massachusetts, since the 1980s, beginning with the Portable Vapor Compression System, a system shaped like a vacuum cleaner canister weighing 27 pounds, leading now to a couple of prototype compact systems weighing less than 5 pounds that resemble an oversized brick.

Engineers on the Chemical Technology Team are focused on having a system that weighs less than 4 pounds by 2008 and ultimately a system weighing less than 3 pounds by 2015 that will still provide the desired cooling to enhance Soldier safety and performance.

"Cooling is a medical and safety issue," said Brad Laprise, a mechanical engineer. "Comfort is a by-product. You'll never feel like you're in an air-conditioned room (with these systems), but the idea is to mitigate the Soldier's heat stress, allowing them to do their jobs safely and more effectively."

Cooling can also be a force multiplier because troops can work longer without taking frequent breaks necessary because of high ambient temperatures. It also can reduce the logistics load by decreasing the amount of drinking water, said Walter Teal, a chemical engineer.

The personal coolers designed by Aspen Systems, Inc. in Marlborough, Mass., and Foster-Miller in Waltham, Mass., are unique prototypes using the same technology as the Advanced Lightweight Microclimate Cooling System but in a smaller package. "These prototypes are stepping stones. The next step is to take the lessons learned from the Aspen and Foster-Miller units and go to something smaller," Teal said. "We know we are pushing the envelope of vapor compression, but we think there are things we can do to lower the weight and power use."

Vapor compression technology works the same way as a refrigerator or air conditioner. It's composed of a compressor, condenser, evaporator, thermal expansion tube, fan and pump working to move heat to the ambient environment. In the case of microclimate cooling, liquid is chilled and pumped through a vest lined with a network of tubing, removing excess body heat.

The Foster-Miller prototype provides 110 watts of cooling at 95 degrees F ambient temperature and weighs 4 pounds. The Aspen prototype weighs 4.65 pounds and provides 120 watts of cooling under the same conditions. Both require 50 watts of power, but engineers hope to achieve similar cooling capacity with only 30 watts of power in the future. Although 300 watts of cooling is ideal, at least 100 watts of cooling is needed to lower core body temperature according to studies they've seen, Teal said. Lower cooling capacity is a trade-off for reduced weight.

Shrinking size an inch or two and trimming a few ounces here and there will work for the next phase, but Teal said breakthrough technology is needed to achieve the most compact cooler for Objective Force Warrior. "Taking off those last two pounds will take more effort than the first 22 pounds," he said. For more information about the Soldier Systems Center, visit www.natick.army.mil.

HELP YOUR DELTA COMPANY HELP YOU

CAPTAIN DANIEL R. MILLER

I can still remember sitting in Building 4 at Fort Benning with my Infantry Career Captains Course (ICCC) classmates when everyone from the light world said, "I don't want a delta company (anti-tank) when it comes time for command." We learned nothing about delta companies in the basic course and coming from the mechanized world, I had no idea what they were talking about. Four and half months into my command of a delta company with the 101st Airborne Division (Air Assault) – as I was getting ready to cross the Iraqi border with my company – I was convinced that neither did they.

What I had assembled in front of me was 75 percent of my battalion's combat power, and it was my job to effectively employ them in combat. The next month would carry us to An Najef and southeast Baghdad. During this stretch, my men conducted countless combat patrols, performed multiple route recons, and assisted with clearing each of these areas of unexploded ordnance (UXO) and ammunition caches. Furthermore, they secured the 327-vehicle convoy that crossed the Iraqi border, in addition to securing the assistant division commander for support and the division rear as they led the 101st Airborne Division from An Najef to Iskandaria Airfield. My Soldiers also secured the battalion tactical command post (TAC) as they circulated about the battlefield.

Our next move was to Mosul. Our mission transitioned to stability and support operations; however, the number of missions we conducted here grew at an astronomical rate. My company area of operations (AO) was approximately 700 square kilometers with more than 100,000 people. This AO required constant patrolling to get accurate assessments of what the towns needed and to establish contracts to fix the basic services in the towns. The critical service upon arriving in Mosul was fuel – both gasoline and propane. The U.S. paid for companies to provide fuel as the Iraqi pipelines underwent repair, and my gun trucks were responsible for escorting everything into the battalion's quarter of the city. Additionally, there were a number of static sites that we were required to secure – the division headquarters, the civil-military operations center (CMOC), numerous pay sites, gas stations and propane distribution sites. Early in July, we added rest and recuperation (R&R) escort to our repertoire, which required a section to secure the buses from Mosul to the Army's R&R site for a three-day period. We also assisted with VIP security including during Ambassador L. Paul Bremer's visit. Civil-military and security operations consumed our days, and with each attack on U.S. forces or intelligence report of a possible attack, we stepped up our offensive operations at night.

On a nightly basis, I generally had:

❑ Two platoons conducting traffic control points with the

Courtesy photo

Specialist Kory Illeyne of D Company, 3rd Battalion, 327th Infantry Regiment, fires a TOW missile as other Soldiers take cover at the end of the search for Uday and Qusay Hussein in Mosul, Iraq.

intent of interdicting weapons smuggling into the city;

☐ One platoon pulling force protection at our company compound; one platoon acting as the battalion quick reaction force (QRF); and

☐ One platoon serving in direct support of one of the line companies.

On several occasions, Delta Company contributed as the battalion's inner and outer ring cordon during task force-level cordon and knock/search operations. We also conducted smaller scale cordons in support of Task Force 20, as they serviced a number of high payoff targets.

The idea I am attempting to get across is that this company that my peers said they wouldn't want to command played an integral role in everything that this battalion did. While the line companies were able to establish a set operational cycle, there was an anti-tank (AT) section moving somewhere in Mosul 21 hours out of every day. Our mobility and firepower made us the most sought after asset in the battalion, and to think I was told that I did not want this job.

With all that being said, there are a couple of issues I would like to address that could help make this outfit even more lethal and survivable.

MAINTENANCE

As we hit the middle of July, I began to see more and more deadlined trucks, and I could not help but think of what could be done to prevent this from happening. Every truck in my company had logged, on average, 5,000-6,000 miles in the last four months. The wear and tear on these vehicles, which were also in Iraq 12 years ago during Operation Desert Storm, had taken its toll and was making our ability to maintain combat power difficult – but not impossible.

Coming from a mechanized assignment, I was amazed to see the size of the battalion maintenance team that is expected to keep vehicles running in an air assault infantry battalion. Our battalion team is roughly the same size as a mechanized company maintenance team.

I have been blessed with having one of the best maintenance technicians in the Army, Warrant Officer Charles Schneider, and some great mechanics. The four-man contact team kept my company rolling throughout this deployment, but it came with a price of working these great Americans 24 hours a day. These conditions require a special breed of Soldier, especially in an environment where a broken down vehicle can make you a target of opportunity

for the enemy in minutes. Had we been the only element that the contact team was concerned with, their task would not have been so daunting. Unfortunately, when the Soldiers were done with our trucks, they simply moved on to the next company – taking care of the entire battalion. This leads to my first suggestion – add four mechanics to the MTOE of an air assault infantry battalion.

A dedicated maintenance team, one 63B20 and three 63B10s along with two Ml046s (shelter HMMWV [high mobility multipurpose wheeled vehicle] with winch), for each delta company would pay huge dividends for the battalion. This change would:

✺ Create a team of mechanics who know the delta company fleet intimately;

✺ Allow the HHC mechanics to focus on HHC trucks, with the occasional M998 from a line company requiring repair;

✺ Enable the delta company commander to set a service schedule without concern over the impact on the rest of the battalion;

✺ Promote the fix forward concept by returning to the BSA only for major assembly repair; and

✺ Add two more winches to the

company for vehicle recovery.

In conjunction with this suggestion, I would also recommend the addition of one 92A10, PLL (prescribed load list) clerk, along with an ULLS-G box for delta company. During Operation Iraqi Freedom, my battalion went through An Najef with 1st Brigade, east Baghdad with 3rd Brigade, and Mosul with 2nd Brigade. In changing the task organization, we also had to change the Forward Support Battalion (FSB) that we received Class IX from. In doing so, we lost a considerable amount of parts, due to unplugging the battalion ULLS-G box from one unit and plugging in with another; not to mention the obvious lull in parts ordering as we were between units. However, we were very fortunate in the sense that by remaining with our parent battalion we still had the ULLS-G box. Had we been detached as a company, we would have been forced to input all of our data into another battalion's ULLS-G and stand a good chance of losing a good status on every part that had been ordered.

Remaining with our battalion did not mean that everything ran smoothly though. There are some inherent difficulties when you are dealing with an element as big as a battalion – where the records for every piece of equipment are in one computer. One clerk is expected to update all of these documents, along with the dispatches and driver's licenses.

Most critical of all, the PLL listing in the battalion is based on all the battalion's vehicles. As long as we are meeting the demand criteria, there should always be a stock of critical class IX. However, there are some items that do not need replacing as frequently, and unless they are identified as a command-stocked line, the battalion cannot have any on hand when the vehicle does go down. With only 10 command-stocked lines authorized by Army regulations, there is no way for the battalion to focus on just one type of vehicle. My proposed changes would:

❋   Allow the company commander to create his own PLL listing with parts geared towards his Ml121s, the battalions' only pacing item;

❋   Allow Delta Company to plug directly into other FSBs

Courtesy photos

Specialist Bradley Johnson (right) and Sergeant First Class Dave Pribble keep their eyes on a crowd while their platoon runs a traffic control point in northern Mosul.

when the task organization attaches them to different brigades without having to input each of the company vehicles into another battalion's ULLS-G box;

❋   Create a separate parts bin at the FSBs Class IX warehouse for Delta Company so if they are detached, they do not rely on the battalion they are attached to for CL IX support. Additionally, they do not continue to rely on their parent battalion when task organized to another unit;

❋   Relieve the current battalion PLL clerk of the burden of controlling and having to print all dispatches, 5988-Es, and drivers licenses in the battalion; and

❋   Significantly decrease the delay between identifying a fault and getting a part put on order in the ULLS-G box.

Ultimately, these five personnel would be assigned to Headquarters and Headquarters Company (HHC), just as the maintenance teams in a mechanized battalion. The delta company maintenance team chief would be rated by the battalion team chief, battalion motor officer, and HHC commander. When conducting training or deployed, the maintenance team will live in the delta company trains. The PLL clerk will set up shop in either the unit maintenance collection point (UMCP) or the field trains.

Delta companies will continue to be the center of gravity for this fight and many fights to come. I understand that MTOE changes do not happen quickly, and I will not be around to directly feel the impact of making changes like those that I have recommended. However, I truly believe that when the Army recognizes delta companies are a motorized force in need of their own internal support structure, the companies will achieve their full operational potential.

Sergeant James Hale speaks to one of the company's interpreters after establishing a hasty traffic control point in the city of Mosul.

Captain Daniel R. Miller is currently serving as the commander of Delta Company, 3rd Battalion, 327th Infantry Regiment, 101st Airborne Division (Air Assault). He is a 1997 graduate of the U.S. Military Academy.

STONEWALL JACKSON
AND
GEORGE S. PATTON

A Survey of Leadership

COLONEL JOSEPH C. CARTER
MAJOR MICHAEL S. FINER

"Leadership is the thing that wins battles. I have it, but I'll be damned if I can define it. It probably consists of knowing what you want to do, and then doing it and getting mad as hell if anyone tries to get in your way."

— *The Unknown Patton* by Charles Province

Notwithstanding its intangible nature, leadership is often the singular, decisive element in achieving battlefield success. Other factors, including weapons, technology, logistics and industrial capacity, significantly aid an army in overcoming an adversary. Moreover, these environmental necessities are strategic objectives that a nation develops to support its armed forces and are usually beyond the immediate control of a commander. Leadership, however, is the driving mechanism behind the structural factors that a country provides to its commanders and it alone, is the "thing that wins battles," according to General Patton.

All else being equal among armies, superior leadership will allow one army to defeat another. More importantly, superior leadership can inspire a weaker army to overcome logistical and physical disadvantages and thus defeat a force larger in terms of numbers and equipment. Leadership is the catalyst of the underlying reactions whose ingredients include, but are not limited to manpower, logistics, morale, and technology.

Logically then, the question arises: How can we improve the level of leadership in such a way that we, as an army, maximize our potential as a fighting force? Our methodology presumes that the best way to prepare the leaders of the future for battle is to study successful leaders in battles of the past.

Utilizing the "trait" approach to leadership theory, certain common, demonstrable qualities will emerge to assist in the understanding of what it takes to become a superior military leader. We shall examine the lives of Stonewall Jackson and George Patton to unravel the common qualities of America's two finest military tacticians.

These Soldiers shared two common characteristics — strong historical knowledge and the ability to tactically employ mass, which made each man a good general. General Jackson possessed an additional mystical leadership quality, which allowed him to become the finest commander to ever fight on American soil. Similarly, General Patton possessed an inspirational leadership quality, which made him second to only Stonewall Jackson in terms of battlefield success. We shall endeavor to identify those characteristics which each man shared, and we shall describe the specific quality which made each man a superb military leader, but in very different ways.

THOMAS JONATHAN JACKSON – The Beginning of an Enigma

Thomas Jonathan Jackson was born in 1824 in rural Virginia. His formal education was severely limited by the fact that he was orphaned at the age of 6; he was continually shuffled from relative to relative during childhood and largely without the company or support of his siblings. At the age of 17, Jackson was accepted into West Point where he clearly had a difficult time assimilating with other cadets. Not only was he of humble means and of unusual disposition, his station was not comparable to incoming plebes such as George McClellan, A.P. Hill and James Longstreet.

At West Point, "Old Jack" was most remembered for his indelible perseverance, and paradoxically, for his generosity to others. At the end of his first year at West Point, he stood 70th in French, 45th in math, and 51st in general merit out of class of 72. Three years later, he stood 5th in ethics (his favorite subject), 12th in engineering and 11th in artillery. Whether Jackson was less gifted than other students or was educated in an inferior manner, one cannot determine. More revealing, however, he undeniably demonstrated his indomitable will, his desire to press on, and his fastidious nature by spending inordinate amounts of time preparing his lessons and continually improving his class standing.

GEORGE SMITH PATTON, JR. – A Connoisseur of Military History

George Smith Patton, Jr. was born into a loving, patrician family in Southern California. In the late 19th century, the Patton family moved from Virginia to California where it accumulated significant wealth as cattle farmers and through propitious marital combination. The Patton family enjoyed a long and honorable military heritage, which included Patton's grandfather, who was buried a Brigadier General, after being mortally wounded at the Battle of Winchester in the Shenandoah

Valley, while commanding the 22nd Virginia Regiment.

One of the senior Patton's closest friends was Colonel John Singleton Mosby, the fabled "grey ghost" of "Jeb" Stuart's mighty cavalry and the namesake of Mosby's Rangers. In the book, *The Unknown Patton*, author Charles Province states that Mosby often visited the Patton's elegant California ranch. "Colonel Mosby would reenact the Civil War with George junior; playing himself, he let George play the part of General Lee as they evoked the battles of the war…"

"Georgie" spent one year at VMI (Virginia Military Institute) in preparation for the five that he spent at West Point where, as the necessity of an additional year indicates, he was an average student. Whether or not his secondary education was the cause of his lack of achievement at West Point is a matter of conjecture. It must be noted that Patton did not enter into formal education until he was 11 years old, and much speculation has occurred regarding this fact to include the widespread theory that Patton was dyslexic. More likely, it appears that Patton's father preferred education via the oral tradition. For example, during his youth, "Georgie" was not taught to read and write. He was entirely read to. In this manner, the senior Patton believed that "Georgie" would naturally develop his true interests.

Patton distinguished himself for bravery in both the Mexican War and World War I. In the Mexican War, he captured and killed the bodyguard of Francisco Pancho Villa in a daring, almost reckless raid, and in World War I he was cited for battlefield bravery.

During the intervening period between the World Wars, Patton studied extraordinary amounts of military history. When Patton died, it is said that he possessed a military library so vast that it rivaled certain military institutions, a well-utilized advantage of being one of the wealthier officers in the Army. Although he was intermittently depressed by the lack of warfare during this time period, Patton published several treatises and articles which summarized his conclusions and ideas regarding war to include commentary on leaders of the past to include Caesar, Napoleon and Stonewall Jackson.

Stonewall Jackson's Maxims

In the book, *Stonewall Jackson and the American Civil War*, author G.F.R. Henderson refers to General Jackson's personal discourse with General Imboden. In one message, Jackson noted that:

> *"There are two things never to be lost sight of by a military commander. Always mystify, mislead, and surprise the enemy, if possible; and when you strike and overcome him, never give up the pursuit as long as your men have strength to follow; for an army routed, if hotly pursued, becomes panic-stricken, and can then be destroyed by half their number. The other rule is, never fight against heavy odds, if by any possible maneuvering you can hurl your own force on only a part, and that the weakest part, of your enemy and crush it. Such tactics will win every time, and a small army may thus destroy a large one in detail, and repeated victory will make it invincible."*

These remarks of General Jackson, clearly a reflection of Napoleon's influence upon him, summarize his thoughts of how an army should fight. I will take the liberty of dissecting Jackson's message to General Imboden into a more simplistic form in order to analyze the specific characteristics that Jackson possessed and utilized in battle. Unlike George Patton, published works by Jackson are rare, and thus, one must infer as to his personal views without the assistance of autobiographical or other sources.

Stonewall's Rule Number One (Valley and Wilderness Campaigns) — Mystify, mislead and surprise.

Jackson's most brilliant and well-known use of this precept occurred when he vanished from the Valley and appeared in the First Wilderness Campaign ready, willing and able to attack McClellan. Unfortunately, McClellan's hubris contributed to his total disregard of the possibility that "Old Jack" could have maneuvered his troops so far so quickly. What allowed Jackson to mislead "Young Napoleon" so thoroughly? Remember that Jackson achieved a lower class rank at West Point than did McClellan, and thus, he was compelled to achieve success by good deed, for he was without predisposition to high command due to station or class standing.

Stonewall's Rule Number Two (Chancellorsville) — Press on.

By mercilessly force-marching his army, Jackson appeared at Hooker's rear without detection, despite reports provided to Hooker by competent staff officers. On that fateful day, Stonewall Jackson devastated Hooker's right flank and rear areas in a classic envelopment movement that caused unprecedented panic and eventual retreat among the Federals. Jackson's superior leadership was the result, in part, of his personal belief that the mission must be accomplished first and foremost, regardless of how hard the men must be pushed.

Stonewall's Rule Number Three (Chancellorsville) — Mass.

In Jackson's final and most brilliant battle, he integrated all three of his time-tested principles in one glorious stroke of military genius. Again at Chancellorsville, Jackson hurled his entire corps in a vast flanking attack. Lee and Jackson agreed to mass Jackson's corps for the purpose of attacking Hooker in detail. In the confusion of battle, Jackson was killed by his own troops while re-entering his lines after infiltrating enemy positions when reconnoitering the federal battle scenario. On the day of his greatest victory, he and his doctrine were initiated into immortality due to a misunderstanding with friendly sentries.

Although the aforementioned summary of Stonewall's maxims does not do a scholar justice, it does concisely represent the substance of his success. Jackson applied these simple principles with logical brilliance and complexity.

Jackson demonstrated these principles in his battles in the Valley, at First and Second Manassas, and in the Wilderness to a lesser extent. His skills with respect to tactical ability were pure because, unlike his opponents he was unable to rely on personal charisma or natural beauty to inspire his troops. Instead, his maxims, his indomitable will, his uncanny ability to evaluate topography and his superior feats of personal concentration on the battlefield allowed him to motivate troops by providing constant success. By also reporting the first victories to the Confederacy, print-media reinforced his successes, and even exaggerated some

of them. Nonetheless, the prime benefit of this exposure was an identity and esprit-de-corps for his troops, something that General Patton would note in his study of history.

Patton's Military Maxims

In a paper titled "The Secret of Victory," Patton lucidly elaborated his philosophy, which at the time (March 26, 1926) was the epic summary of years of intensive military history study. Patton identified three essential elements, which he believed were unequivocally essential for a commander to possess in order to achieve the ultimate result — victory.

Patton's Three Elements for Victory

Inspiration * Knowledge * Force (Mass)

Patton's Rule Number One — Inspiration.

Patton firmly believed that certain lopsided victories of Caesar, Napoleon, and Grant were the primary result of "spiritual" inspiration and motivation, and the secondary result of mental ability. Patton explained that there was a distinction between mental ability and the execution of battle plans. He commented that "Hooker's plan at Chancellorsville was masterly; its execution cost him the battle."

Of course, it may be that the superhuman maneuvering of Jackson defeated his plan, a supposition which Sun Tzu would have agreed with when he observed that: "What is of supreme importance in war is to attack the enemy's strategy."

Patton's Rule Number Two — Knowledge.

Patton noted that Napoleon won many battles when outnumbered, but he never lost a battle in which he possessed numerically superior forces. Patton considered Napoleon the epitome of military ability, and as such comprehensively studied his career battles. Patton further postulated that no single element — inspiration, knowledge, or mass — was dominant.

In "Helpful Hints for Hopeful Heroes," he wrote that "any operation, reduced to its primary characteristics, consists of moving down the road until you bump into the enemy… When you have bumped, hold him at the point of contact with fire with

Department of Defense photo

General George S. Patton acknowledges the cheers of the crowd in Los Angeles on June 9, 1945.

about a third of your command. Move the rest in a wide envelopment so you can attack him from his rear flank."

Patton's tactical victories in World War II were characterized by wide flanking maneuvering tactics. His march across France was certainly influenced by the conquests of Caesar in Gaul and Napoleon in Italy. His unrewarded, yet now immortal, relief of the 101st Division at Bastogne was "Stonewallesque" in that he force-marched and pushed foot infantry to inhuman levels.

Patton felt that inspiration was the most important of the three tenets: knowledge and mass being equally less important. He makes an analogy to bread, which unleavened will sustain life, but will be dull tasting; however, when leavened, it is delicious. Personality (inspiration) is the leaven of armies. Let us make the assumption that armies produce men of equal military knowledge. Hence, with equal knowledge existent, inspiration will be the catalyst necessary to win battles, for knowledge alone of how to win battles cannot be fully transmitted unencumbered to subordinates.

Patton's Rule Number Three — Mass. In the *Memoirs of U.S. Grant*, General

Grant presents similar ideas and discusses their interrelationships. For example, Grant had more success in the campaigns in the west than he did in the east against General Lee, even though his forces were numerically inferior in the west. In the west, however, Grant inspired his troops and utilized his superior knowledge of maneuver to seize Vicksburg and other Confederate strongholds against inferior, if you will, commanders. Conversely, against Robert E. Lee, who possessed, at the very least, equal abilities with respect to inspiration and knowledge, Grant was forced to use mass, the least desirable of the three tenets, to achieve victory. Accordingly, Grant believed that a general should attain victory first by inspiration, second by superior knowledge or military arts, and then by mass/force.

Patton abided by these tenets in their rightful order. In Sicily, he was forced to utilize mass as a last resort because maneuver was not producing desirable results. On the other hand, he inspired his troops and utilized superior knowledge to outmaneuver his opponents in his famous march across France. Patton, like Jackson, only resorted to mass when faced by an equally knowledgeable and inspired commander.

Salient Common Characteristics

Thomas Jonathan Jackson and George Smith Patton Jr., had nothing in common. Jackson was poor and an orphan; Patton was wealthy and well loved. Jackson was shy, quiet, and hypochondriac; Patton was a socialite, athletic at an Olympian level, articulate, and extroverted. Jackson was intensely religious; Patton's religion related to convenience. What was not readily obvious, however, was a common philosophy that was not essentially identical. Both men implemented a brand of inspiration that allowed their troops to maneuver at incredible speeds, and thus were able to shock and surprise the enemy with superior force at weak points at undesirable times. The differences in personality, temperament, and station are unmistakable; the similarities in leadership, single-mindedness, and knowledge are striking.

Based on this analysis, there are two identifiable characteristics that both men possessed which made each, and indeed every commander who possesses them, a good commander:

* Knowledge of history, and
* Effective utilization of mass.

Both Generals were devout students of military history and understood the distinction between effective massing of force and unnecessary slaughter. What characteristics propelled each general to greatness? This is where the similarities end and individuality begins. Patton used personal inspiration to motivate his troops, and his battlefield exploits are legendary. His utilization of theatrical motivational techniques provided stimuli to his troops which allowed them to have unparalleled success.

Jackson's mystical qualities made him a demigod among his troops; he was literally worshiped by his men. His philosophy to never inform his subordinates of his upcoming maneuver plans allowed his armies to abruptly surprise the enemy. His introverted nature and religious fervor often confused his peers; his humility, lack of ambition, and strict disciplinary nature made him an enigma. This unpredictability, coupled with his knowledge of military history and use of mass and maneuver, made Stonewall Jackson America's finest tactical general.

Jackson inspired his troops by use of his indomitable will. He forced his troops to push themselves, and by doing so they were successful in their first battle, at First Manassas. Of course, success begets success and by gaining their confidence, Jackson was able to apply superior analytical abilities while pushing his forces to physical exhaustion. Why was he able to do this?

Jackson had proven himself as a leader, and his men unquestionably believed in him. The praise and glory heaped upon them only multiplied the utility of Jackson. He in no way utilized charm or personal charisma to inspire his troops. In another way, by use of mystique, he inspired his troops, and once inspired, he applied his tenets to achieve victory.

George Patton utilized personal inspiration and charisma to motivate his troops. Once inspired and victorious, the troops naturally adjusted and improved to a level where they felt that they were infallible. In addition, Patton was a devout student of military history, which included a study of Jackson. Patton's sister once stated that until George was 15, "Georgie" thought that the steel statues of Robert E. Lee and Stonewall Jackson in their house were those of God and Jesus Christ, respectively! How much of this is hyperbole, we do not know, but it does unquestionably illustrate that Patton had the advantage of studying Stonewall Jackson.

What can be said, though, is that both Jackson and Patton had a definite understanding of how successful wars ought to be fought and those views resulted from studying the great generals of the past. As Napoleon observed:

"Read again and again the campaigns of Hannibal, Caesar, Gustavus Adolphus, Turenne, Eugene, and Frederick. Model yourself upon them. This is the only means of becoming a great captain, and of acquiring the secret of the art of war…" (*The Military Maxims of Napolean,* David G. Chandler)

Who would have won a battle between George Patton and Stonewall Jackson? It is, of course, difficult to hypothesize upon a matter such as this, for neither general truly fought against a commander of equal ability, as did Lee and Grant or Napoleon and Wellington, thus affording such a comparison. By refocusing the question, though, there are other intangible items that this analysis can assist the current Army in understanding.

For example, there is an interesting phenomenon that has manifested throughout modern warfare, and it is particularly endemic in the United States Army: Soldiers who succeed during peacetime, administering the Army, and who, as a result, advance to general officer rank, tend to be unsuccessful in actual combat and are summarily replaced by less well-known officers. Both Thomas Jackson and George Patton achieved little notoriety during their pre-war careers. Although they both fought courageously and gallantly in wars at junior ranks, their careers proceeded slowly before the beginning of the next war.

Based on an analysis of these two immortal figures, it is striking to realize that there are two distinct pathways for one to historically ascertain general officer status in the Army. The first pathway develops during peacetime and requires a specific set of administrative, political and leadership skills. On the other hand, the second pathway develops during combat and requires distinctly different skills, particularly with respect to leadership.

What can one gain from this commentary and analysis? The following tenets should be internalized by every officer in the Army.

To become a good, solid commander follow these precepts:

Knowledge – Study the warriors of the past and absorb their maxims. These include Caesar, Napoleon, Jackson, Lee, Grant and Patton, for example.

Mass – Understand the difference in the application and use of superior and inferior forces.

To become "a great captain of warfare" apply this principle:

Single-minded determination – Whether it is personal inspiration or mystical qualities, adapt your personality to items one and two and become a true warrior.

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Getting Heavy Mortars into the Fight

CAPTAIN MATTHEW C. PAUL

Lack of planning for mortar fires during the military decision-making process (MDMP) can occur, often resulting in ineffective mortar fires and an incomplete fire support plan.

In order to get mortars into the fight, the mortar platoon should receive at least one essential fire support task (EFST) per mission. The mortar platoon leader should then develop his plan based off these assigned EFSTs.

> Fire support planning and coordination are key to effective and efficient employment of mortar fires. Mortar fire support planning is the continuous and concurrent process of analyzing, allocating, coordinating, and scheduling mortar fires. Integrating these fires with the maneuver plan optimizes the commander's combat power.
> — **p. 3-1, FM 7-90,** *Tactical Employment of Mortars*

The heavy mortar platoon's greatest asset is its inherent responsiveness to the battalion task force. This capability is exploited while attacking targets of opportunity throughout the depth of the battlefield. Although it is wise to focus mortars on the immediate suppression of unplanned targets that appear on the battlefield, mortar fires need to also be deliberately incorporated into the task force (TF) fire support plan. Like a maneuver unit, the heavy mortar platoon needs an objective. This is accomplished by assigning the mortar platoon essential fire support tasks.

First and foremost, the relationship between the mortar platoon leader, the TF fire support officer (FSO), and the TF S-3 must be sound and open, with a mutual trust and confidence established between all three individuals. Brigade's military decision-making process produces EFSTs for the direct support (DS) artillery battalion to accomplish. The DS artillery battalion uses these EFSTs to plan their positioning, displacement, ammunition requirements, and firing solutions. Sometimes, these EFSTs are insufficient, and do not adequately support the TF commander's objectives. Therefore, mortars need to fill this void. TF MDMP must produce mortar EFSTs to complement the field artillery. This will allow the TF commander to effectively shape the TF mission.

The TF mortar platoon leader should be included in as much of the MDMP as possible. At a minimum, he should participate in the staff wargame. The mortar platoon leader can provide valuable input to the TF staff planners regarding his platoon's capabilities and limitations. This will greatly assist these individuals in developing the necessary EFSTs and the overall fire support plan.

Every EFST should articulate a task, purpose, method, and desired effects. Every task must contain a targeting objective. Common targeting objectives include limit, disrupt, delay, divert, destroy, and damage.

FM 6-20-10 describes these objectives as follows:

Limit — Cause force to shift to another approach/isolate defender. It reduces the options or courses of action available to the enemy commander.

Disrupt — Preclude efficient interaction of enemy combat/combat support systems. Forces enemy into ineffective tactical dispositions and degrades movement of material, forces, and supplies.

Delay — Alter arrival time of enemy force/slow defensive prep. Occurs as a result of disrupt, divert, destroy.

Divert — Tie up critical resources.

Destroy — To ruin the structure, organic existence, or condition of an enemy target that is essential to an enemy capability. Indirect fire normally uses 30 percent as the criteria for destruction.
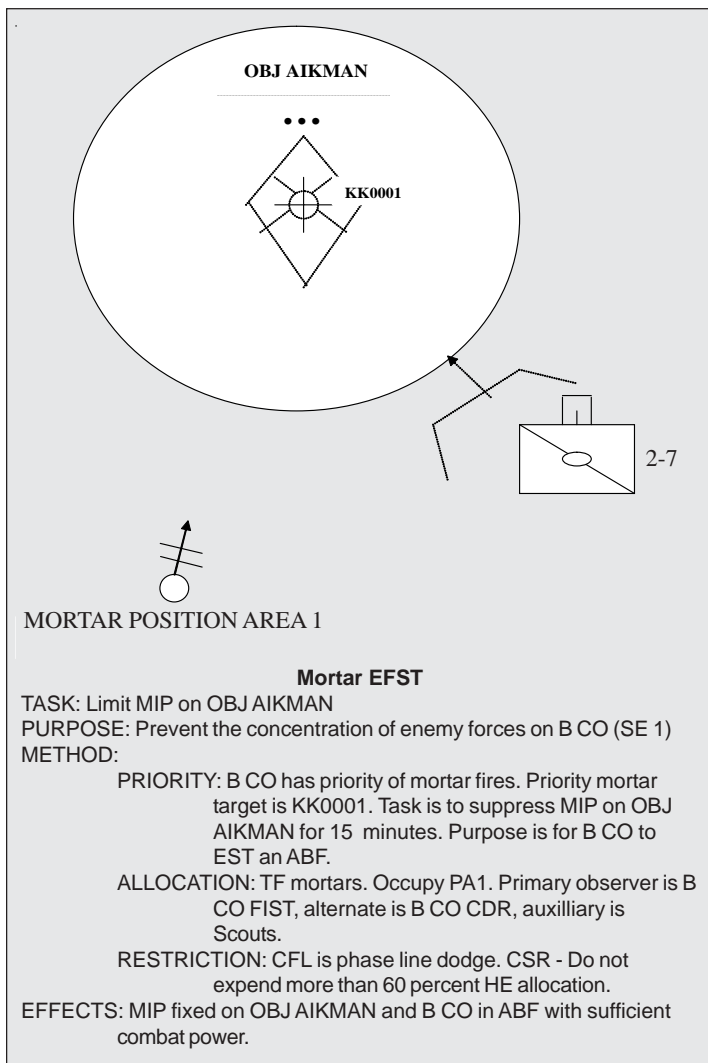
OBJ AIKMAN

• • •

KK0001

2-7

MORTAR POSITION AREA 1

Mortar EFST

TASK: Limit MIP on OBJ AIKMAN
PURPOSE: Prevent the concentration of enemy forces on B CO (SE 1)
METHOD:

    PRIORITY: B CO has priority of mortar fires. Priority mortar target is KK0001. Task is to suppress MIP on OBJ AIKMAN for 15 minutes. Purpose is for B CO to EST an ABF.

    ALLOCATION: TF mortars. Occupy PA1. Primary observer is B CO FIST, alternate is B CO CDR, auxilliary is Scouts.

    RESTRICTION: CFL is phase line dodge. CSR - Do not expend more than 60 percent HE allocation.

EFFECTS: MIP fixed on OBJ AIKMAN and B CO in ABF with sufficient combat power.

Figure 1 - Example Annex D Concept Sketch

Damage —

Light: prevents immediate equipment use without minimal repair.

Medium: Prevents equipment use without major repairs

Severe: Prevents use permanently.

Every task requires a purpose and it must answer the question "why?" For example, "In order to prevent the concentration of enemy forces on A Co., the main effort." The "why" is usually linked to either enemy or friendly maneuver.

Method describes how the task and purpose will be achieved. It is broken down into three subcategories; priority, allocation, and restriction. The EFST method normally addresses priority targets, priority of fire, mortar position areas, displacement and attack triggers, fire support coordination measures, and ammunition controlled supply rates.

The EFST method should identify priority mortar targets on which the mortar platoon must lay its guns on and trigger at the right place and time in order to accomplish the desired effects. The TF FSO may select targets on the brigade consolidated target list to accomplish the mortar EFST. If these established targets are insufficient to accomplish the EFST, the TF FSO will attempt

Soldiers from Mortar Platoon, 2nd Battalion, 7th Infantry Regiment prepare for a mission during Operation Iraqi Freedom.

to refine them or create new targets for the mortar platoon to attack. Each of these targets must have a task and purpose. The task will identify the specific effects desired on the target. Common tasks include "destroy," "suppress," "neutralize," "screen," and "obscure."

FM 3-09.31 describes the purpose as a summary of the task and purpose from the EFST. Each task has specific criteria. Destruction requires 30-percent casualties and/or damage to material. Neutralization requires 10-percent casualties and/or damage to material. Suppression is achieved when the enemy's ability to effectively employ direct fire on friendly forces is hindered. A smoke screen is usually friendly oriented by enabling a friendly element to bypass or breach an obstacle, for example. It is usually emplaced between friendly and enemy forces. Obscuration smoke is achieved by placing smoke on top of the enemy position, thereby degrading his observation of friendly forces. What is critical is that the meanings of the tasks are mutually understood by all involved in the fire support process.

Effects describes the mission success criteria. The criteria are usually met if the purpose of the EFST has been achieved.

The TF FSO and S-3 should issue the TF mortar platoon at least one, but no more than two EFSTs per mission. They must also be explained and illustrated in Annex D of the TF operations order (OPORD). (See Figure 1.) Mortar EFSTs must also be realistic and within the platoon's capabilities to accomplish. For example, it is unrealistic to assign mortars an EFST to "Destroy an MIP." Mortar EFSTs should be planned and focused accordingly. Mortars are ideally employed for suppression. Neutralization and destruction can be easily achieved on soft targets. However, on the mechanized battlefield, those effects are difficult to achieve on hardened targets, due to large ammunition expenditures. Mortar EFSTs should be primarily focused on destroying soft targets like dismounted anti-tank systems and suppressing motorized infantry platoons. Due to the large

ammunition requirement for smoke missions, a smoke EFST target should be given to the FA. However, a realistic and effective mortar EFST target in this regard would be to initially build and establish the smoke screen for 2-8 minutes, then allow the FA to maintain it with their extensive cache of white phosphorous ammunition.

Similar to the DS artillery battalion, the mortar platoon must completely shape its mission around its EFSTs. Its positioning, displacement, survivability moves, firing solutions, and ammunition requirements and ammunition controlled supply rates are based solely around its EFSTs. Mortar range limitations and the displacement necessary to compensate are both major planning considerations during MDMP. With cooperation from the staff planners and TF CDR, it must be TF standing operating procedure (SOP) to position the mortar platoon as close to the forward line of troops (FLOT) as possible. For instance, the mortar platoon should travel behind the lead company team during the approach march phase of an attack or movement to contact. This will serve as a condition setter for successful accomplishment of the mortar platoon's EFSTs. It will also enable the mortar platoon to occupy its firing position at the right time and maintain its necessary one-third to two-third range coverage to the TF.

The TF FSO and the mortar platoon leader must address the mortar EFSTs along with all other EFSTs during both the TF fire support rehearsal and TF combined arms rehearsal. In addition, mortar firing solutions, positioning and displacement, and any significant limitations to mortar support should also be addressed. It is important for all maneuver commanders and fire supporters to understand the mortar platoon's capabilities and limitations throughout the depth of the mission. The target observation plan must be refined and rehearsed during the TF fire support and combined arms rehearsals. Each target should require a primary observer, an alternate observer, and an auxiliary observer or "backfill." Ideally, all should be present at both TF rehearsals.

The mortar platoon must be flexible with its execution of its assigned targets.

Similar to planning for primary and alternate observers, the mortar platoon must have an alternate fire direction center (FDC) plan for each assigned EFST target. Every mortar squad leader must possess the knowledge and ability to accomplish the platoon's mission without the presence of the FDC and/or platoon leader. At a minimum, each squad must possess the necessary communications equipment, an M2 Compass and/or an aiming circle, a Precision Lightweight GPS Receiver, a plotting board with firing tables, a map with graphics, a mortar execution matrix, and a target list worksheet. Most of the elements required for the set up and employment of the plotting board can be plotted prior to the execution of the TF mission. This will save the squad leader the time and chaos of set up in the event the FDC becomes attrited.

In order for the squad leaders to set up their plotting boards, the platoon leader must issue the "grid intersection" for the plotting board, a direction of fire, a referred deflection, and the target location. The only missing element to be plotted here is the mortar platoon's firing position location, which can be quickly obtained through the use of GPS once the guns are in their firing position. In the event the FDC goes down, the squad leader tasked as the alternate FDC for the target will automatically reset his radio frequency to the TF fire support net and establish communications with the TF FSO and forward observers. He will subsequently place his gun/guns into position and lay them on to the target utilizing the equipment at his disposal. Finally, the squad leader will attack the target when triggered by the observer.

As a result of the many variables that can occur in combat, every assigned EFST target should have an alternate FDC

Captain Bill Thompson/First Lieutenant Jesse Delgado

A 2-7 Infantry Soldier passes a mortar round during a fire mission outside Saddam International Airport during Operation Iraqi Freedom.

assigned to it. The mortar platoon must understand, that if all else fails, they must at least, accomplish their EFSTs. For contingency purposes, the heavy mortar platoon must also have the flexibility to maneuver to the FLOT and fire its EFST targets with its guns employed in the direct lay or direct alignment mode.

This may become necessary in the event of significant TF attrition and/or loss of TF command, control and communications. A flexible and well-trained mortar platoon is a combat multiplier, a true asset to the heavy task force.

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TF Heavy Mortars in a 360-Degree Battlefield

Lessons Learned from Operation Iraqi Freedom

CAPTAIN MATTHEW C. PAUL

The following are some recommendations for the training and use of heavy mortars from a former mortar platoon leader based on his experiences during Operation Iraqi Freedom.

FLEXIBILITY — Many variables exist in combat. Soldiers get hurt or killed, leaders change jobs, and the enemy does not always do what we want him to do. Every member of the mortar platoon must learn all duty positions within the platoon. Gunners need to know how to perform as a squad leader. Squad leader's need to know how to execute fire direction center (FDC) procedures. During combat, a Soldier can and will find himself performing a duty he is not normally accustomed to. Emphasize cross-training at home station and ensure all Soldiers are at least capable of performing two levels up and are proficient down to one level.

All squads must be prepared and equipped to accomplish the platoon's mission independently from the platoon headquarters element, should the opportunity arise. In Operation Iraqi Freedom, it was not uncommon to get separated during long movements due to vehicle, road, and/or weather conditions.

Every Soldier and leader must know the ins and outs of the mission. Thorough back-briefs are a valuable tool to reinforce understanding of the mission. During the planning phase of Operation Iraqi Freedom, I provided each squad and TC (tank commander) with a tabbed binder containing the task force and platoon operations orders, concept sketches, graphics, checkpoints, imagery, target lists, and mortar execution matrices. Each squad was afforded time to study the materials within the binder. Once they had the information memorized, the entire squad back-briefed the platoon leader and platoon sergeant on the maneuver, fire support, and combat service support plans off of a map and terrain model.

POSITIONING — The task force (TF) S-3, fire support officer (FSO), and mortar platoon leader plan mortar positioning. The platoon should receive two to three position areas within a given TF mission. Any more than three is unrealistic and causes the

Captain Bill Thompson/ First Lieutenant Jesse Delgado

Mortar Platoon Soldiers from the 3rd Infantry Division's 2nd Battalion, 7th Infantry Regiment prepare for a mission outside Saddam International Airport in April 2003.

platoon to lose its focus. The position areas should be large enough to provide the platoon with the flexibility to displace and maneuver if necessary. Triggers to displace also need to be planned. They should be event driven, based on a friendly or enemy action. Position the mortars behind the lead company during movement in order to maintain adequate range coverage to the TF. Keep in mind, a forward edge of the battle area (FEBA) does not fundamentally exist in a 360-degree battlefield where the threat is everywhere. Ideally, stay close enough to the action as possible, but far enough away to avoid direct fire contact. Position near a line company and make valuable use of the protection they can provide with their tanks, Bradleys, and infantry. Do not position the mortars on key terrain features like road intersections, for example. Many enemy do not have the ability to shift or adjust fire. They merely preregister their artillery/mortars on key terrain and trigger their fire at a predetermined event. Some mortar platoons that fought in Iraq learned this lesson the hard way. Conduct a good reconnaissance of tentative mortar firing positions utilizing satellite and/or aerial imagery and designate both primary and alternate locations for both firing positions. This is important when fighting in built-up areas because a standard topographic map does not depict where individual buildings/structures are located.

PROTECTION — The mortar platoon is an independent maneuver element and is also a soft target. As a result, the mortar platoon is extremely vulnerable to enemy direct fire. During Operation Iraqi Freedom, the enemy would patiently wait for the Bradleys and tanks within a task force column to pass by, then initiate an ambush against lightly armored and soft skinned vehicles with RPG and sniper fire. Possible solutions include smart positioning and proactive observation for the enemy while moving and while static. While moving, mortars should be located between line companies in order to afford the protection they

provide with their organic firepower assets. This is an important consideration while planning displacement triggers. Make every attempt to move behind or near a line company while displacing. While static, attempt to position the guns within supporting direct fire range of a friendly line company. Regardless of the location of friendly elements, the mortar platoon should always provide their own 360-degree local security and should never drop below 50-percent security during an ongoing operation. Aggressive scanning and local patrolling in and around your firing position are prudent measures to avoid enemy direct fire contact. Squad leaders should be issued a set of binoculars and should periodically scan potential enemy positions while moving, during short and long halts, and while occupied within a firing position. When occupied within a firing position, it is recommended that the mortar platoon employ a two to three-man listening post/observation post (LP/OP). Their position should afford them cover and concealment, observation, and clear fields of fire. They should be equipped with binoculars, night vision goggles (NVGs) with thermal sights, machine gun, and anti-armor weapon systems. All of this equipment should be trained on likely enemy avenues of approach. During Operation Iraqi Freedom, the Iraqi's hid their armor under overpasses and between buildings, making observation by air and ground difficult. While my task force was securing the eastern half of Baghdad International Airport, their armor launched an assault from these clever hiding positions once they perceived the air threat had lifted. As a countermeasure, make every attempt to procure a Javelin system in order to adequately defend against enemy main battle tanks.

While vulnerable to direct fire, the mortar platoon is also vulnerable to indirect fire. A mortar's high-angle fire is easy to detect by enemy counterfire radar. If this threat exists, I recommend that the mortar platoon conduct a survivability move to a subsequent firing position after every fire mission, if practical. After you occupy a firing position, send your grid coordinates to your fire support element (FSE) and ensure they subsequently send it to the Q36/Q37 radar teams so they do not mistake your high angle fire for enemy mortars. You can accomplish this during the planning phase of an operation by requesting radar "sensing zones" be placed around your planned mortar position areas.

MARKSMANSHIP — At home station, where opportunities and resources to conduct training are limited, it is very easy to focus solely on mortar training. In a 360-degree battlefield, any Soldier may be placed in a situation to employ his own assigned weapon. Our TF mortar platoon fired our own personal weapons more frequently than our mortars. TF mortars fought through multiple enemy ambushes, engaged bypassed pockets of resistance, and were forced to repel an assault of up to 100 enemy soldiers with our organic M16 and M4s, M240Bs, MK-19s, and .50 caliber machine guns. Every Soldier should be an expert on his assigned weapon and should be, at a minimum, familiarized on all other organic platoon weapon systems. Emphasize advanced marksmanship training at home station and focus on quick fire techniques as well as firing from the standing and kneeling positions.

AMMUNITION CONSERVATION — During OIF, logistics shortcomings caused problems in resupplying mortar rounds. In an effort to conserve ammunition, ensure the FDC utilizes the appropriate shell/fuse combination per target. For example, we received a fire request on a large enemy trench network. We fired 20 rounds of high explosive ammunition with proximity fuses, then 12 rounds of white phosphorous ammunition. This produced a catastrophic effect on the enemy, equipment, and ammunition contained inside the trench. Forward observers reported all enemy infantry destroyed with multiple secondary explosions observed. This effect may not have been achieved had we fired just high explosive ammunition with all point detonating fuses. We would have had to fire at least twice as much of this ammunition to achieve the same effect. Also, when the target description lends itself, request to adjust fire as opposed to firing immediate suppression or fire for effect. Ultimately you will conserve ammunition by moving one round at a time on to the target instead of firing a massive volley initially, then adjusting and repeating.

DIRECTION OF FIRE — Designating a direction of fire is an extremely important consideration while fighting a 360-degree threat. This is due to the limited 1600 mil mortar coverage while mounted on the mortar carrier. The platoon leader, with the help of the FDC, must battle track and maintain situational awareness of where friendly and enemy elements are located at all times. This will dictate the direction with which the guns are laid. Responsiveness is a mortar platoon's greatest asset. When the situation dictates, do not hesitate to relay the guns while occupied in a firing position. Do not wait until after you receive a fire request on a target that you cannot cover with your current direction of fire. Proactive cross-talking with the company commanders on the TF command net, as well as cross-talking with the company FSOs on the TF fire support net is also useful in maintaining situational awareness. During the planning process, use templated enemy locations while determining the direction of fire.

ACCURACY — Mortar fire accuracy was significantly enhanced when engaging targets at close range, especially within two kilometers. Take steps to ensure the mortar platoon is positioned as close to the direct fire fight as practical. Boresighting is a vital accuracy enhancing measure that must be conducted during every long halt, in assembly area procedures, and in consolidation and reorganization. The platoon leader must make every effort to register the mortars while located in a static firing position. The platoon can register the base piece gun only off of a stationary target previously adjusted on to. Ideally, the platoon should receive and apply a meteorological (MET) message every four-to-six hours. If the weather patterns change significantly between lengthy MET updates, I recommend the current MET be deleted from the mortar ballistics computers. This will reduce the unpredictability of the mortar rounds adjusting on to a desired target.

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The Egyptian-Yemen War (1962-67)

Egyptian Perspectives on Guerrilla Warfare

LIEUTENANT COMMANDER YOUSSEF ABOUL-ENEIN, USN

Egyptian military historians refer to their war in Yemen as their Vietnam. President Nasser began by sending a battalion of Special Forces and in the end committed 55,000 troops — all in an effort to sustain a revolution of Yemeni officers who brought an end to a tyrannical and medieval Hamiduddin dynasty. This five-year conflict offers many lessons from the Yemeni officers, who were sent to Egypt and Iraq for military training only to return with Nasserist, nationalist and Baathist ideas, to the underestimation of Egyptian Field Marshal Amer and his general staff, who felt that a battalion of Special Forces combined with airpower could score a quick and decisive victory.

As the United States undertakes the crucial task of rebuilding Iraq and Afghanistan, it is imperative that this new generation of American military planners gain an appreciation for the history, strategy and tactics of wars not usually studied in today's western war colleges. Despite massive manpower, airpower, armor and artillery, the Egyptian expeditionary forces could only hold onto a triangle of land from the capital Sana'a to the port of Hodeida to Taiz.

An analysis of this conflict may help U.S. military planners as they cooperate with Yemeni authorities to hunt down Al-Qaeda. Studying the Yemen War is also a vital step towards a real appreciation of the combat techniques and terrain of the area in which Osama bin Laden's family originated. The Hardamaut region of Yemen provides Al-Qaeda with a strong base of support among a few of its tribes. Egyptian military planners attempted to pacify the region with the help of Yemeni Republican forces; however, their task was made even more complex when royalist forces were backed by Saudi, Jordanian, Iranian, and British support.

A Backwater of World War I

Using tribal levies, the Ottoman Turks created four battalions of gendarme and three cavalry regiments. In 1906, the Italians recruited thousands of Yemeni and gave them military training in their colony of Somalia before sending them to Libya to fight the Sanussi insurgency of 1911. It would be a combination of these forces that held stronger ties to tribe that would rebel against Ottoman rule in Yemen in World War I. Aware of the gains made by the Hashemites to the North and their Arab Revolt, Yemeni tribes began their own attacks on Ottoman forces. Although not as famous as the revolts involving T.E. Lawrence, the Yemeni revolt led to the withdrawal of Turkish units by 1918 and the establishment of an Imamate under the Imam Yahya.

Yahya kept a cadre of 300 Ottoman officers and soldiers to train the Imamate Army. They divided the Yemeni forces into several formations:

♦ The Al-Muzaffar Army — This was the tribal levy begun by the Ottomans and diverted to Imam Yahya in 1919. A fascinating element is that each tribe included a retainer who reported on the behavior, awards, and misdeeds of members of his tribe. If a member of the tribal levy stole, or left without permission, the retainer and tribal chief compensated the Imam for the loss.

♦ The Defensive Army — Created in 1936, it was a draft of all able-bodied men capable of bearing arms. The difference was that each person was given six months training and the draft included urban Yemenis. They received periodic training for 10 years. This was a primitive form of reserve army that trained 15,000 per year.

♦ The Outback Army — This was an

exclusive fighting force in which Zeidi tribesmen, of the same religious sect as the Imam, brought their own rifle and provisions. This irregular infantry and cavalry force served for one to two years and then another soldier was provided by the Zeidis. They numbered 50,000 at any given time.

♦ Special Imamate Guard — Specially selected for their absolute loyalty to the monarch, they were called the "Ukfa" and numbered about 5,000.

Military Training Missions

Yemeni officers who undertook failed coup d' etats in 1947 and 1955, before the successful 1962 coup, all received advanced military training in Iraq, Syria and Egypt. These officers were in awe of the great cities of Cairo, Damascus and Baghdad. They lamented the backwardness of their own nation and received heavy doses of Arab nationalism, ideas on how civil-society functioned, and much more. Some listened to the methods by which Nasser and his free officers overthrew the monarchy of King Farouk, and dreamt of doing the same in Yemen.

Italy provided six tanks, 2,000 rifles, four anti-air guns and communications gear in 1926. Iraq provided rifles and communications equipment. Four officers and noncommissioned officers along with four cannons, six heavy machine guns, 12 light machine guns and 20 rifles came from Egypt in 1954. Throughout 1956 and 1957, Soviet freighters brought the largest infusion of modern weapons into Yemen. It included tanks, artillery, planes, armored cars, submachine guns, and small arms, many of which were left boxed in crates.

Organization of the 1962 Revolution

Upon the death of Imam Ahmed on September 18, 1962, the Imam who had ruled ruthlessly for three decades was succeeded by his son Imam Badr. The army officers argued on whether to strike now or wait until Imam Badr's uncle Prince Hassan returned from abroad to capture them both. Colonel Abdullah Sallal decided to act and ordered that the military academy in Sana'a go on full alert — opening all armories and having weapons issued to all junior officers and troops. On the evening of September 25, Sallal gathered known leaders of the

Yemeni nationalist movement and others officers who had sympathized or participated in the military protests of 1955. Each officer and cell would be given orders and would commence as soon as the shelling of Imam Badr's palace began. Key areas that would be secured included:

∗ Al-Bashaer Palace (Al-Badr's Palace);

∗ Al-Wusul Palace (Reception area for dignitaries);

∗ Radio Station;

∗ Telephone Exchange;

∗ Qasr al-Silaah (Main Armory); and

∗ Central Security Headquarters (Intelligence and Internal Security).

The revolution was carried out with 13 tanks from the Badr Brigade, six armored vehicles, two mobile artillery cannons, and two anti-air guns. Command and control of the forces loyal to the coup would take place at the Military Academy.

The Dynamics of the Coup

A unit of revolutionary officers accompanied by tanks headed towards Al-Bashaer Palace. By microphone, they voiced an appeal to the Imamate Guard for tribal solidarity and to surrender Imam Al-Badr, who would be sent peacefully into exile. The Imamate Guard refused to surrender and opened fire, leading the revolutionary leaders to respond with tank and artillery shells. The rebels planned to deploy tanks and artillery in the coup. Amazingly, the coup leaders had only five rounds per tank. The battle at the palace continued until guards surrendered to the revolutionaries the following morning. The radio station was first to fall , secured after a loyalist officer was killed and resistance collapsed. The armory was perhaps the easiest target, as a written order from Colonel Sallal was sufficient to open the storage facility, beat the royalists, and secure rifles, artillery and ammunition for the resistance. The telephone exchange likewise fell without any resistance. At the Al-Wusul Palace, revolutionary units remained secure under the guise of granting and protecting diplomats and dignitaries staying there to greet the new Imam of Yemen. By late morning on September 26, all areas of Sana'a were secure and the radio broadcast that Imam Al-Badr had been overthrown by the new revolutionary

government in power. Revolutionary cells in the cities of Taiz, Al-Hujja and the port city of Hodeida then began securing arsenals, airports and port facilities.

It is important to realize that throughout the reign of Imam Ahmed, dissent, revolution, and intrigue reigned. The Imam suffered from no less than 12 attempts on his life, including a failed assassination while on his deathbed. What Colonels Al-Sallal, Mohammed Al-Zubairi, Abdulrahman Al-Baidani and Mahasen Al-Aini did was coordinate the various aspects of revolutionary activity into one concerted effort. The group's leader, Al-Sallal, was influenced by readings about the French revolution and Nasser's book, *The Philosophy of the Revolution.* Al-Baidani, an intellectual holding a doctorate degree, was an ideologue who did not share in Nasser's vision. He wanted to create a Republic along Yemeni lines, not emulate Nasser, which was the path Al-Sallal had chosen. The two would come to a head with Al-Sallal eventually coming out on top.

On September 28, the radio announced the death of Imam Al-Badr, who was still very much alive. By this time, Al-Badr had left the capital of Sana'a and fled towards Al-Hujjah to the north. He intended to do what his forefathers had done — rally tribes in the north and in the Hadramaut Mountains and wage a war to regain his capital. Egyptian General Ali Abdul Hameed was dispatched by plane, and arrived on September 29 to assess the situation and needs of the Yemeni Revolutionary Command Council. Not wasting any time for a review of what was going on in Yemen, the Egyptians gave a battalion of Special Forces (Saaqah) the mission to act as personal guards for Yemeni Colonel Al-Sallal. They arrived at Hodeida on October 5.

Anwar Sadat was convinced that a regiment reinforced with aircraft could firmly secure Al-Sallal and his free officer movement. Events moved quickly and Saudi Arabia, fearing Nasserist encroachment, moved troops along its border with Yemen, as the Jordanian monarch dispatched his Army chief of staff for discussions with Imam Al-Badr's uncle, Prince Hassan. Between October 2-8, four Saudi cargo planes left Saudi Arabia loaded with arms and military material for Yemeni

royalist tribesmen; however, the pilots defected to Aswan, Egypt. Ambassadors from Bonn, London, U.S. and Amman supported the Imam while ambassadors from Cairo, Rome and Belgrade declared support for the republican revolution.

Egyptian Strategic Rationale

Egyptian military thinkers have debated the reasons why their forces were sent to Yemen. Anthony Nutting's definitive biography of Gamal Abdul-Nasser identifies several factors that led the Egyptian President to send expeditionary forces to Yemen. Among the situations pressuring Nasser was the unraveling of the union with Syria in 1961, which meant that the United Arab Republic (UAR) he created in 1958 lasted barely 18 months. Nasser needed to regain prestige after Syria's separation from his union. A quick decisive victory in Yemen could help him recover leadership of the Arab world. Nasser also had his reputation as an anti-colonial force, setting his sights on ridding South Yemen and its strategic port city of Aden, of British forces.

Dana Adams Schmidt's book, *Yemen, the Unknown War*, reveals Nasser's initial willingness to wait out Imam Ahmed and work with his son Imam Badr. However, the hostile relations between the old Imam and Nasser were evident in a poem written in 1961 by Yemen's monarch criticizing Nasser. The Egyptian Pan-Arabist leader then responded on Radio Cairo.

The book that best places a reader into President Nasser's mindset leading to the commitment of troops in Yemen is General Mahmoud Adel Ahmed's 1992 book *Memories of the Yemen War 1962-1967*. It was published in Arabic as *Dhikrayat Harb Al-Yaman*. The author highlights that on September 29 the decision was debated by Egypt's National Command Council. The council felt it necessary to send an Egyptian expeditionary force as a deterrent to Arab monarchies bent on the destruction of the Yemen coup and, in particular, to deter Saudi Arabia.

Mohammed Heikal, a chronicler of Egyptian national policy decision making and confidant of Nasser, wrote in *For Egypt Not For Nasser*, that he had engaged Nasser on the subject of supporting the coup in Yemen. Heikal argued that Colonel Al-

Sallal's revolution could not absorb the massive amount of Egyptian forces that would arrive in Yemen to prop up his regime, and that it would be wise to consider sending Arab nationalist volunteers from throughout the Middle-East to fight alongside the Republican Yemeni forces. Heikal discussed the example of the Spanish Civil War as a template from which to conduct events in Yemen. Nasser refused Heikal's ideas and was adamant about the need to protect the Arab nationalist movement. Nasser was convinced that a regiment of Egyptian Special Forces and a wing of fighter-bombers would be able to secure the Yemeni Republican coup d' etat. Nasser had looked to regime change in Yemen since 1957 and finally put his desires into practice in January 1962 by giving the Free Yemen Movement office space, financial support, and radio air time.

Among the items in Nasser's mind when he sent forces to Yemen were:

▶ Impact of his support to the Algerian War of Independence from 1954-1962.

▶ Syria breaking up from Nasser's United Arab Republic (UAR) in 1961.

▶ British and French relations were strained by Nasser's support for the Algerians and primarily for his efforts to undermine the Central Treaty Organization (CENTO), which caused the downfall of the Iraqi monarchy in 1958.

▶ Nasser saw it as Egypt's destiny to confront imperialism.

▶ Nasser's Defense Minister, Field Marshal Amer, was quoted as saying that securing Yemen for Republican forces was vital to Egypt's national interest, by guaranteeing dominance of the Red Sea from the Suez Canal to the Bab-el-Mandab Strait.

▶ Yemen was seen as a way of settling the score with the Saudi royal family, who Nasser felt had undermined his union with Syria.

Nasser and his Field Marshals on the Yemen War

Within three months of sending troops to Yemen, Nasser realized that this would require a larger commitment than anticipated. By early 1963, he would begin a four-year quest to extricate Egyptian forces from Yemen, using an unsuccessful face-saving mechanism, only to find himself committing more troops.

A little less than 5,000 troops were sent in October 1962. Two months later, Egypt had 15,000 regular troops deployed. By late 1963, the number was increased to 36,000; and in late 1964, the number rose to 50,000 Egyptian troops in Yemen. Late 1965 represented the high-water mark of Egyptian troop commitment in Yemen at 55,000 troops, which were broken into 13 infantry regiments of one artillery division, one tank division and several Special Forces as well as paratroop regiments.

Ambassador Ahmed Abu-Zeid served as Egypt's ambassador to Royalist Yemen from 1957 to 1961. He sent numerous valuable reports on Yemen that did not reach Ministry of Defense officials and seemed to be buried in the Foreign Ministry. He warned Egyptian officials in Cairo, including Defense Minister Amer, that the tribes were difficult and had no sense of loyalty or nationhood. The Ambassador stood against sending Egyptian combat forces and argued that only money and equipment be sent to the Yemeni Free Officers. Abu Zeid warned that the Saudis would flood Yemen with money to turn against the revolution.

Nasser and his Revolutionary Command Council did not understand that placement of troops in Yemen - at the gates of Saudi Arabia - would be viewed as a matter of life or death to the Al-Saud family, as well as increase the threat of British forces stationed in the Protectorate of Aden. These effects were not taken into consideration when the final decision was made to commit Egyptian forces in Yemen. Another hidden dimension of the power struggle was Saudi Arabia seeking to be the dominant influence in the Arabian Peninsula. Nasser's expeditionary forces threatened the traditional dominance Saudi Arabia enjoyed over Yemen and the other gulf states.

Running a War without Maps

All the Egyptian field commanders complained of a total lack of topographical maps causing a real problem in the first months of the war. Commanders could not plan military operations effectively nor could they send back routine and casualty reports without accurate coordinates. Field units were given maps that were only of use for aerial navigation. Chief of Egyptian Intelligence, Salah Nasr, admitted that

information on Yemen was nonexistent. Egypt had not had an embassy in Yemen since 1961; therefore when Cairo requested information from the U.S. ambassador to Yemen, all he provided was an economic report on the country.

The lack of adequate maps and understanding of the terrain would continue to dog Egyptian forces in Yemen. Of the commanders sent to execute Operation 9000, as Egyptian war planners called the Yemen War, only General Talaat Hassan Ali, an Egyptian of Yemeni descent from the Bani Saand Tribe, had any real knowledge of Yemen.

The Saudis and Royalists did not suffer from these problems as the tribes of Southern Saudi Arabia and Northern Yemen were closely linked. In addition, the Saudis enticed thousands of Yemeni workers in Saudi Arabia to assist the royalist cause. The increase in Egyptian forces was a direct result of Saudi and British escalation, not driven by terrain or actual offensive studies. In addition to the Saudis and British, the Iraqis also sent plane loads of Baathist Yemenis to undermine the survival of the pro-Egyptian Al-Sallal Free Officer's regime.

Egyptians Realize the Importance of Airpower

From 1962 to the end of the Yemen War, the Egyptian general staff quickly came to appreciate the power of airlift. Its impact on the Egyptians was not made clear in Yemen until October 1963. At that time, Algerian leader Ahmed Ben Bella became embroiled in a desert war with the U.S.-friendly Moroccan monarchy over an area of the Sahara awarded to Algeria by the French. The Algerians possessed only a guerilla army that confronted conventional armored forces of the Royal Moroccan Army. Algerian President Ben Bella appealed to Nasser for help which came in the form of a massive sea and airlift of tanks and equipment that according to Nutting was of remarkable speed and efficiency

for the Egyptian army. It enabled the Algerians to hold the disputed territory. In January 1964, royalist forces sieged the Yemeni capital Sana'a. Egyptian Anotnov heavy-lift cargo planes airlifted tons of food and kerosene into the region. The Egyptians estimate that hundreds of millions of dollars were spent to equip Egyptian and Republican Yemeni forces, and in addition, Moscow refurbished the Al-Rawda Airfield outside Sana'a. The politburo saw a chance to gain a toehold on the Arabian Peninsula and accepted hundreds of Egyptian officers to be trained as pilots for service in the Yemen War.

Egyptian air and naval forces began bombing and shelling raids in the Saudi southwestern city of Najran and the coastal town of Jizan, which were staging points for royalist forces. In response, the Saudis purchased a British Thunderbird air defense system and developed their airfield in Khamis Mushayt. Riyadh also attempted to convince Washington to respond on its behalf. President Kennedy sent only a wing of jet fighters and bombers to Dhahran Airbase, demonstrating to Nasser the seriousness of American commitment to defending U.S. interests in Saudi Arabia.

Israeli Interests in the Conflict

Strategically, the Yemen War was an opportunity for Israel. It stagnated Egyptian military plans for the reinforcement of the Sinai by shifting the Egyptian military focus to another theater of operation. Egyptian historian Mohammed Heikal writes that Israel provided arms shipments and also cultivated relationships with hundreds of European mercenaries fighting for the royalists in Yemen. Tel-Aviv established a covert air-supply bridge from Djibouti to North Yemen. The war also gave Israelis the opportunity to assess Egyptian combat tactics and adaptability. Heikal believes missions, such as Israeli General Moshe Dayan observing U.S. forces in Vietnam, were part of a deliberate effort to collect

information on eastern, Soviet, and Chinese-based guerilla tactics as well as learn how to respond to a movement of nationalist liberation. The Palestine Liberation Organization had already begun to absorb the lessons of the Viet Cong by the mid-1970s.

Royalists Yemeni Forces and Their Contributors

In 1963 alone, the Saudis spent $15 million to equip royalist tribes, hire hundreds of European mercenaries, and establish their own radio station. Pakistan, which saw a chance to make money in the conflict, extended rifles to the royalists. Remnants of the Imam's Army also had elements of the Saudi National Guard fight alongside its ranks. Iran subsidized royalist forces on and off, as the Shah felt compelled, to provide the Shiite Zeidi Imam Al-Badr with financing. The British allowed convoys of arms to flow through one of its allies in Northern Yemen, the Sherief of Beijan, who was protected by the British administration in Aden. British military planes conduced night operations to resupply Imam Badr's forces.

Imam Al-Badr had formed two royalist armies — one under his uncle Prince Hassan in the east and one under his own control in the west. Both armies controlled most of the north and east of Yemen, including the towns of Harib and Marib. The provincial capital of Northern Yemen, Sadah, which would have given the Imam a key strategic road towards the main capital Sana'a, was controlled by the republicans. There were also areas like the town of Hajjah, where they the royalists controlled the mountains while the Egyptians and republicans controlled the town and fortress Mercenaries from France, Belgium and England, who had fought in Rhodesia, Malaya, Indochina and Algeria, were sent to assist the Imam in planning, training and giving the irregular forces the ability to communicate with one another and the Saudis. They trained tribesmen in the use of antitank weapons, such as the 106mm gun and in mining techniques. The numbers of mercenaries are unknown but it seems they numbered in the hundreds, not 15,000, as reported by Egyptian sources. Royalist tactics were confined to guerilla warfare, isolating conventional Egyptian and Republican forces, and conducting attacks on supply lines.

Operational Phases of Combat

The Egyptian General Staff divided the Yemen War into three operational objectives. The first was the air phase, it began with jet trainers modified to strafe and carry bombs and ended with three wings of fighter-bombers, stationed near the Saudi-Yemeni border. Egyptian sorties went along the Tiahma Coast of Yemen and into the Saudi town of Najran and Jizan. It was designed to attack royalist ground formations and substitute the lack of Egyptian formations on the ground with high-tech airpower.

In combination with Egyptian air strikes, a second operational phase involved securing major routes leading to the capitol Sana'a, and from their secure key towns and hamlets. The largest offensive based on this operational tactic was the March 1963 "Ramadan" Offensive that lasted until February 1964, focused on opening and securing roads from Sana'a to Sadah to the North, and Sana'a to Marib to the East. The success of the Egyptian forces meant that royalist resistance could take refuge in hills and mountains to regroup and carry out hit-and-run offensives against republican and Egyptian units controlling towns and roads.

The third strategic offensive was the pacification of tribes and their enticement to the republican government, meaning the expenditures of massive amounts of funds for humanitarian needs and outright bribery of tribal leaders.

By 1967, Egyptian forces would rely exclusively on defending a triangle linking Hodeida, Taiz and Sana'a. It struck southern Saudi Arabia and North Yemen with air sorties and Nasser desperately wanted a mutual withdrawal of Egyptian and Saudi forces, and a face-saving way out of Yemen. It came in the form of the 1967 Six-Day War, Nasser's saber rattling, coupled with a withdrawal of United Nations forces from the Sinai, led Israel to take a bold offensive defeating the combined armed forces of Syria, Egypt and Jordan. After the Six-Day War, Arabs began to unify against Israel, and this gave Nasser a way out of Yemen at the Arab Summit in Khartoum. From 1968 to 1971, Egypt and Saudi Arabia, along with hundreds of mercenaries, began a disengagement from Yemen.

In comparing Egyptian tactical performance in this conflict with that of others, Egypt demonstrates a higher level of initiative and military innovation. For instance, early in the war, Egyptians modified jet trainers and Soviet transports into strafers and bombers. Egyptians evolved their tactics, but were bogged down in a guerilla stalemate. War planners in Cairo also realized that the Bab-el-Mandab Strait offered a deeper strategic means of blockading oil supplies to Israel, a tactic they employed in the 1973 Yom-Kippur War. Yet another lesson is the Saudi-Wahabi ability to support a Shiite regime of royalist Yemen against what they perceived as godless Nasserist socialists. Indeed, this war is the clearest indication of staunch Wahabi Sunnis cooperating with Shiites in combat. This should shed light on the present day notions of Al-Qaeda cooperating with Shiite organizations such as Hezbollah.

The Yemen War also offers a model from which to compare and contrast today's war on terrorism, in the hills of Yemen, using UAVs. It seems aerial assaults are still is the ideal method of catching tribal and terrorist cells hiding in the caves and mountains of North Yemen. Finally, it is vital in today's post September 11th environment to rediscover these obscure insurgency wars waged in the Middle East. Another example worthy of study is the insurgency supported by Nasser of the Front for the Liberation of South Yemen (FLOSY), a means by which British forces could be diverted to subduing their own war in South Yemen, that would lead to the only communist nation in the Arab World. This would be another theater, and aspect, of the Yemen War not covered in this essay. There are also border wars between Oman and Saudi Arabia, and insurgencies known as the Dhoffar Rebellion in Oman, all of which offer students lessons in border control, desert warfare and mountainous guerilla tactics.

Lieutenant Commander Youssef Aboul-Enein is currently serving as the country director for North Africa and Egypt at the Office of the Secretary of Defense. He is a frequent contributor of essays and reviews on Middle East issues for Department of Defense publications. Translations of Arabic materials cited represent Aboul-Enein's understanding of the material and any errors are unintended. Special thanks go to the Pentagon and Georgetown University librarians and Julia East, a James Madison University student, for their assistance in preparing the article.

THE TOC IN COMBAT

FIRST SERGEANT DEREK MCCREA

On March 20, 2003, Task Force 3-15 Infantry, 2nd Brigade Combat Team, 3rd Infantry Division (Mechanized), crossed the border into Iraq as part of Operation Iraqi Freedom. The Task Force traveled more than 700 miles in severely restricted terrain, during daylight and limited visibility, for 21 days of intensive combat maneuvers. The tactical operations center's (TOC's) command and control (C^2) and quality standard operating procedures (SOPs) resulted in a well-oiled machine with superb synchronization of combat forces arrayed throughout the battlefield.

Security of the TOC

The priority of work in any organization always includes security first. The security of the TOC plays a vital role in the success of the unit. Properly established and maintained security will ensure success and allow the command to concentrate solely on command and control. In accordance with FM 7-20, the Headquarters and Headquarters Company (HHC) executive officer (XO) is responsible for security of the TOC, which is under the control of the battalion XO. In TF 3-15, the HHC XO traveled with the field trains command post (FTCP). The operations sergeant major established security in the TOC with guidance from the task force executive officer. The operations sergeant major established security, while the plans NCO simultaneously set up the tactical operations center.

In Iraq, the TOC found itself in varied terrain to include the desert, suburban areas on the outskirts of towns, and near bridges. Each type of terrain demanded a different technique for security. For example, in the middle of the desert it was easy; cover the main avenues of approach and stagger key weapon systems throughout the perimeter, ensuring 360-degree security is set and maintained. On the other hand, when in a suburban area, we would immediately establish all-around security to include traffic control points along roads,

observation points on top of cleared houses and reconnaissance patrols. Without observation posts, traffic control points and reconnaissance, the possibility of an attack on U.S. forces would be increased.

We did what we had to do in combat to protect the TOC from enemy fire. In urban areas at the traffic control points, we emplaced protective concertina wire to prevent civilians from moving through our tactical assembly area. After car bombs and suicide bombing incidents throughout the area of operations, we would not take a chance on the possibility of our Soldiers falling victim to enemy actions. At one location, the TOC set up in the center of an old Iraqi mortar battery. On all four corners of the TOC, there were 100-foot high mounds where enemy mortar rounds were plotted to fire upon the bridge going over the Euphrates River. These towers, made of dirt, made excellent observation posts for the security of the TOC. We could see for miles in all directions, except for one where we emplaced a position on the other side of a university wall to observe the areas

where the enemy could possibly use cover to maneuver upon our position.

Scouts increased the security posture of the TOC by providing security with their .50 caliber machine guns and the Long Range Scout Sight System (LRAS). The LRAS could detect and identify enemy vehicles up to 20 kilometers away. The LRAS systems would be emplaced along enemy avenues of approach to best utilize their capability. The system improved Soldiers' confidence that we would not be overrun by a huge mass of enemy vehicles in the middle of the night. The U.S. Army would benefit greatly by equipping all scout vehicles and fielding at least one system with each maneuver company.

The TOC did not have enough crew served weapons to support itself without external assistance. At home station, we had no up-armored wheeled vehicles. We drew extra equipment and vehicles to provide added security. The task force commander and operations officer deployed forward with the main effort maneuver elements and were rarely in the TOC. Soft-

Courtesy photo

During the opening weeks of Operation Iraqi Freedom, Task Force 3-15 traveled more than 700 miles. The TOC's command and control and quality SOPs resulted in a well-oiled machine with superb synchronization of combat forces arrayed throughout the battlefield.

skinned HMMWVs (high mobility multipurpose wheeled vehicles) had to stay back with TOC B, at the FTCP when armored TOC vehicles moved forward. Threats we encountered included sporadic pockets of RPG and small arms resistance from which our light-skinned vehicles had no protection. The TOC of today must travel close enough to the maneuver units to maintain communications, and the soft-skinned vehicles may place TOC personnel in danger. Fielding of the M1114 up-armored HMMWV instead of the M998 soft-skinned HMMWV to the TOC would further enhance the survivability for future combat missions.

Prior to departing Camp New York in Kuwait, the Soldiers in the TOC were trained on the .50 caliber machine gun and the antitank missile (AT4). This proved very valuable in combat when we were engaged by enemy fire. The M577 driver was recommended for the Bronze Star (Valor), for his heroism when he engaged enemy with the .50 caliber machine gun despite being struck by shrapnel.

FBCB2

The Force XXI Battle Command Brigade and Battalion (FBCB2) proved very effective in command and control for the TOC. It provided accurate information on unit locations and served as a means of making informed decisions on the situation and array of friendly forces on the battlefield. The FBCB2 even displayed other unit's locations that increased our overall situational awareness of the units to our flanks. In a situation where a unit loses communication, there is an icon on the monitor that will allow the command to still maintain knowledge of the unit's location. The system also has the ability to electronically send messages and graphics real-time from senior to subordinate leaders on the battlefield. This feature allows commanders to send their orders and graphics at times when they cannot come together for an oral order. The major drawback to the system is we did not have enough Soldiers and leaders trained on the system, and it was only fielded to the lowest company executive officer level. The system would assist units if fielded down to platoon level for a company commander's command and control of his platoons. On numerous occasions in Iraq, platoons were spread out over large areas covering terrain that the company commander could only see on a map. The ability for the company commanders to visualize their platoons with the FBCB2, the terrain, and the enemy would create an ideal situation for commanders to make the best decisions.

Preparation of Plans, Orders and Graphics

The typical 1:100,000 maps issued for use to the task force did not provide enough detail for leaders to plan for operations. They did, however, prove useful for the tactical road march conducted through 75 percent of the maneuver through Iraq. We did not have enough 1:100,000 maps for everyone, so we made map books. We took the maps of the areas where we would operate and copied the route onto 8.5 by 11 regular pieces of paper with the copy machine. We then laminated this product and added the graphics with alcohol markers. This system was very compact and useful for vehicle commanders in navigation.

The engineer company attached to the task force provided very detailed 1:6,000 maps that depicted the terrain accurately and even showed enemy fighting positions. These maps assisted the command group in identifying avenues of approach and likely enemy courses of action. They also greatly assisted in determining locations of restrictive terrain, including existing obstacles such as canals and small bridges to negotiate these canals. The imagery was the best way to brief operations, rehearse and plan. We received very little imagery after combat started on March 20. We need the capability to request and receive more imagery in combat to share with maneuver commanders and platoon leaders.

During Operation Iraqi Freedom, the tactical operations center accomplished tasks to prepare the best products for the commanders in little time with minimum resources. But it was not always this way. During training, we started out at the crawl phase, learning from our mistakes. We began drawing overlays by hand and passing out incomplete or inaccurate orders and products to maneuver commanders. During training in Kuwait, we worked out standard operating procedures to synchronize the Soldiers and leaders in preparing and producing high quality graphics and plans. All annexes and graphics for the orders were collected from each section and checked for accuracy and completeness before mass production of the final product. The operations officer and operations sergeant major would inspect all products and prepare one flawless product for production.

In training, we found that it was better to make Diazos of the graphics than to have Soldiers prepare overlay graphics for the commanders by hand. The Diazo graphics do not have the possibility of being transferred improperly. When we provided one standard copy, the remaining copies were precise. We found, through trial and error, the more times that you transfer an overlay by hand the more inaccurate it would become. Our standard from then on became to have the graphics published on paper with the Diazo. Private First Class Wilson, the expert on the Diazo machine, would take the graphics and scan them into the Diazo, producing 25 to 30 graphics within an hour, inside the back of a built-up 2½ ton that we called the plans truck. It was made to look like an office inside with electricity provided by a generator. When the company commanders entered the TOC for their briefing, they received the complete order along with graphics for maneuver, fire support and CSS. The staff always held rehearsals if time allowed for all of the leaders who had a part of the plan to brief, and the task force XO would hold them to the highest standard.

In training, we used the SICCUP tents for issuing orders and planning. There was not enough time in combat to set up these tents. There was only one occasion during OIF that we used SICCUPs, and even then we only used one out of the four we were issued. The SICCUP tents had to be rigged to be lightproof at night. We stuffed MREs and boxes around the area where light was leaking from the tents to provide better light discipline. We found it better to use existing buildings for plans areas and issuance of operations orders, especially at night. The buildings provided cover from small arms fire and provided great concealment. We ran power from the generator on the 2½-ton truck to provide lights during limited visibility. The building we used was incomplete. It was without a roof and sat on the edge of a potato patch. We used tarps to cover the roof for the best light discipline. This was the night before the task force was to depart on its largest mission yet, on Objectives Moe, Larry and Curly in the heart of Baghdad.

The TOC and all command and control centers must be able to relocate and maneuver just like any other organization if necessary. During a majority of OIF, TF 3-15 operated from a moving tactical TOC.

Courtesy photo

One key to success during OIF was the staff's incredible ability to be flexible and rapid in their planning and production of fragmentary orders. The rapid production of graphics and orders increased the amount of time the maneuver commanders had to disseminate the order to the lowest level and prepare for the mission. During Operation Iraqi Freedom, we used operations overlays superimposed with execution matrixes for issuing the fragmentary orders from March 20 until April 7, 2003. We maximized the time we had by copying the originals with the Diazo machine. We delivered this type of fragmentary order to the commanders, given only five hours prior to mission execution, for our final battle into Baghdad at Objectives Moe, Larry and Curly. The orders and graphics were on a single piece of paper created by the Diazo, and contained everything the leaders needed to accomplish the mission. This simplified command and control for leaders by providing a single document for referencing graphics and a sequential order of tasks.

TOC A and TOC B

By doctrine (FM 7-20), the TOC is in the main CP. Inside of the TOC, we further designated a TOC Alpha (main CP) and a TOC Bravo (tactical CP). On some occasions, the TOC would split up depending upon the enemy situation in the area that the unit was moving to. During OIF, TOC A traveled with the unit when we expected heavy enemy resistance. TOC A was comprised of the up-armored M1114 HMMWVs, the Air Force M113, and the S3 and FSE M577s. There was no need to carry all TOC vehicles into harms way especially since TOC B was comprised of soft-skinned HMMWVs, 2½-ton trucks and the S2 and Engineer M577s. We also designed a bump plan for key leaders during the separation of TOC A and TOC B.

In OIF, the TF 3-15 TOC utilized three BFVs to optimize command and control with each of the three line companies. The task force commander traveled in HQ66, while the task force operations officer traveled with HQ63. We added a third BFV for the assistant operations officer. This enabled a command and control element from the staff to be with each maneuver element over a large battlefield. The third BFV also proved very helpful when it was with the TOC on Objective Curly when the TOC came under intense enemy direct and indirect fires. In addition to the third BFV, we had one mechanized infantry platoon attached to the TOC for security from one of the maneuver companies for the mission at Objective Curly.

TOC Configuration

In accordance with FM 7-20, *The Infantry Battalion*, there is a standardized TOC configuration with a prescribed example to set up a TOC. In the training environment at the National Training Center (NTC) and the Combined Arms Maneuver Training Center (CMTC), the environment is not comparable to what we experienced in combat. We set up the TOC based on the mission, enemy, terrain, time, troops available, and civilians on the battlefield (METT-TC).

We found there is no time to set up anything when near the enemy. The TOC and all command and control centers must be able to relocate and maneuver just like any other organization if necessary. The M577 TOC extensions took too long to put up in combat and did not provide ample light discipline at night. There is a space between the M577s and the TOC extensions on the sides that allows light to escape at night. On the average it took 30 minutes to emplace the TOC extensions and run the remotes and equipment into the center of the M577s for a Hot TOC. One time, on Objective Daly, just outside of Baghdad, we were surprised as we came under fire from a rocket-propelled grenade (RPG) while we were beginning to set up the TOC extensions between the M577s. The M2A2 Bradley fighting vehicles only 100 meters to our front began firing 25-mm high explosive ammunition at RPG teams close to our perimeter. We decided very quickly that we were not going to be putting up a TOC extension as Soldiers lay down in the prone and security rapidly became 100 percent. During the majority of Operation Iraqi Freedom, we operated from a moving tactical TOC. Planning, decisions and even orders were given as the TOC rolled through battle. Presently, this concept of a tactical TOC is not trained on enough and needs to be considered for future training and possible combat. In Iraq, we faced one offensive operation after another with very little planning time in between operations. The ability to command and control on the move became paramount to the unit's success

On one occasion, during the TOC's occupation on Objective Curly in Baghdad, we came under heavy enemy direct and indirect

fire from all directions. Due to a high volume of enemy fire the two M577s in the TOC positioned back to back, with the back doors facing each other, for the best security in the situation. In such situations, the TOC M577s must move into areas having heavy enemy resistance while maintaining communications and command and control of their elements.

M577 – The TOCs C² Vehicle

The TOC vehicles at the task force level need modified to meet the needs of a fast-moving, mobile force. Currently, the M577 is too thin-skinned, with inadequate communications platforms to provide the best C^2 at the task force level. The C^2V currently used at the division TAC, is too large for the task force requirements. However, many of its functions would assist the C^2 at the TF level. We require protection from small-arms and RPG fires, since during the majority of the missions, the TOC followed closely (1-2 kms) behind the maneuver companies. The vehicles should also have a crew served weapons mount. We had to rig a .50 cal machine gun tripod on top of the M577 with 550-cord to provide a weapon for the TC. We used it many times, but with limited traverse capability.

Communications systems within the vehicle are inadequate. The current multiplexor, MSRT, and radio systems proved to space consuming. More compact and simpler equipment is available. The antennas need to have the capability to be automatically lowered and raised electronically and manually from inside the vehicle. In many cases, electrical lines and overhead obstacles sheared off antennas. Critical time was wasted in lowering and raising the antenna, along with gaps in communications during movement. The FBCB2 system was by far, the most useful system in the TOC for situational awareness, long-distance communications, and graphics dissemination. I recommend putting the system in all the TOC C^2 vehicles (EN, FSE, S2, and S3). We only had one system in the S3 track.

Track extensions for shelters were not durable enough, lightproof enough, nor flexible enough for rapid-paced combat. We used two TOC extensions (canvas) to set up for periods over 24-hours. The situation did not allow time for emplacing TOC extensions as we had so many times trained for. The system needs to be quickly pulled from attachments on the vehicle, with built-in light proofing fasteners. The vehicle should accommodate three people in back, with a driver and TC. Seats need to be bucket type, with swivel capability to view both sides of the track. Map boards were too large to fit into the given area in the M577. A better CVC needs to be developed for C^2. Communications headsets with boom microphones should be redesigned. The speaker system for the radios also needs improvement. The 2.5K generators on the M577 also need work to make it more reliable to power the vehicle and equipment without constantly running the track or slaving off a HMMWV while stationary.

Standard Operating Procedures (SOPs)

We developed SOPs to assign responsibility to officers, noncommissioned officers and Soldiers to synchronize the efforts and maximize the results of the TOC in combat. The SOPs that we worked through in training proved very successful in combat, which produced a team capable of accomplishing tasks simultaneously with superb results. The lessons we learned during training provided a framework to establish SOPs that coordinated the efforts of all members of the staff in producing plans and products for the commanders that led the unit to victory in war.

We assigned permanent teams of Soldiers in the TOC to accomplish security, graphics/orders reproduction, and radio watch. The Soldiers maintained the same responsibilities for every training event and every mission in combat. This created an environment where Soldiers could accomplish the mission to standard in the absence of leadership and the primary tasks became automatic battle drills. All of the vehicles with crew served weapons pulled security during halts along with roving patrols and observation posts. Simultaneously, as security was being established, all Soldiers not pulling security began set up of the TOC with extensions and SICCUPs if necessary. Another team of nine Soldiers, NCOs and officers pulled eight-hour shifts for radio watch. The radio watch consisted of one Soldier, an NCO and a Battle Captain. Utilizing the same Soldiers for the radio watch ensured that all radio procedures and tracking was accomplished to one standard. Our graphics and orders reproduction team rapidly produced mass quantities to be distributed at the order in minimum time with maximum results. The Soldiers, NCOs and officers on TOC watch were thoroughly trained to react to special situations throughout the war. We maintained everything transmitted on the radio in combat on DA Form 1594s, duty logs. At the end of Operation Iraqi Freedom, we had 365 pages of DA 1594s from the war. When asked to provide information to the Division Historical Detachment, we had maintained very accurate records with the DA Form 1594s and kept copies of all of the graphics and orders for every mission. This resulted in a smooth turn in of historical data to the Division Historical Detachment at the completion of the war.

The staff developed an SOP for the TOC called the tactical operations center standard operating procedure (TOCSOP) based upon lessons learned at the National Training Center and training in Kuwait. The SOP established responsibilities from the lowest level NCO to the battalion executive officer. Chapters in the TOCSOP included responsibilities, the military decision making process (MDMP), pre-combat inspections/prepare for combat, tactical operations, internal operations, security, and communications. The TOCSOP assisted the leadership in performing pre-combat inspections prior to combat by standardizing load plans, equipment, and all classes of supply that would be carried by each vehicle in the TOC to support extended combat operations. The SOP established procedures for selecting and securing the TOC in different terrain, and further described actions to be taken for displacement. Radio procedures and the set up configuration of the TOC were outlined in the SOP. The SOP used checklists for radio procedures and TOC set up with standard charts, maps, status boards, reports, change of shift briefs, and information posting and flow. During numerous field exercises the way we trained is the way we fought in combat in the TOC. The TOCSOP simplified the simultaneous actions of 11 different sections during combat in Iraq.

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Deploying to Iraq?

Lessons from an Infantry Company Commander

CAPTAIN DANIEL MORGAN

I have spent 11 months in Iraq fighting this war as a company commander, starting from the berm in Kuwait to Mosul, Iraq. My Soldiers and I have learned a tremendous amount of lessons, shared many successes, and witnessed injuries on our fellow Soldiers. We never failed to conduct an after action review (AAR) or hotwash after an operation, despite the success, failure or casualties. I want to share some tactics, techniques and procedures (TTPs) and standing operating procedures (SOPs) with as many as possible because this fight ebbs and flows with short, shocking violence where "always being prepared" becomes more than just a cliché. You will never know when you will be attacked — it just happens.

An explosion rocks the vehicle in front of you, throwing Soldiers onto the street. You see the vehicle rise up onto two wheels before settling and rolling to a stop. AK-47 fire and RPGs are heard almost simultaneously. Your Soldiers stagger about trying to shake off the effects of the concussion. Some fire wildly in different directions because the reports of the AK-47s are echoing off the buildings, so you cannot pinpoint the direction of fire. The battle drill says to clear the kill zone, but you have competing priorities. First, you have casualties that need to be secured, assessed and stabilized. Second, if you run, you won't kill the enemy or deter them. You must fight back and hopefully kill them. Do you stay in the kill zone and fight?

This happened to me and my Soldiers. We fought back that day, killing one suspected enemy and detaining two more. This reaction occurred due to rehearsals, AARs, aggressive leadership at every level, and discipline.

A hunch tells me that not much will change how we do daily business in Iraq for a while. Operations will be basically broken down into four areas.

➢ First, you need to clear main supply routes (MSRs) of improvised explosive devices (IEDs).

➢ Second, platoons will conduct cordon and searches against a neighborhood, store, market or house.

➢ Third, units will conduct patrols to provide a presence in an area, enhancing security.

➢ Finally, units will conduct civil-military operations simultaneously with the first three operations. These operations require patrolling in an urban environment, mounted and dismounted, leaving you vulnerable.

You MUST always be on the OFFENSIVE. You cannot assume that you are on a security presence patrol. It is always a MOVEMENT TO CONTACT. Company commanders must plan every patrol in this mindset and give specified tasks that accomplish the overall mission. For example, if you are going to conduct a patrol down a heavily congested market street in order to distribute information, treat it as a movement to contact and be on the offensive. Give a subordinate unit the task to distribute newsletters or flyers and use the remaining elements to provide security — ready to fight. This offensive spirit increases force protection and prepares you to gain the initiative immediately upon contact.

I hope to provide leaders who come to Iraq, Afghanistan, or anywhere else in the future some ideas for training and preparing to fight in this environment. This environment consists of two factors — urban fighting and civil-military operations. The fight at the company level requires both skills and capabilities. Many factors are out of your control and many assets needed for stability and support operations (SASO) are not part of your division or brigade force structure, much less battalion. So, you must control what you can and that is urban patrolling, force protection, company level information operations, and home station training.

Urban Patrolling

The more a terrorist succeeds in wounding or killing U.S. Soldiers, the more

Soldiers from the 101st Airborne's 502nd Infantry Regiment talk to locals during a patrol in Iraq.

he is emboldened to do it again. You must instill in your Soldiers that we will fight back into the ambush. Ninety-nine percent of the time you already have fire superiority, so use it immediately. Train your Soldiers to be scanning rooftops, looking across open fields (the enemy wants some stand off and the ability to run), and providing overwatch at every moment. These three factors are key whether you are conducting mounted or dismounted patrols. You must do a patrol brief every time you depart the gate and never cease communicating and crosstalking between each other.

The most important part of the urban patrol is the threat environment. The congestion and overpopulation in these areas endanger any U.S. patrol at any time. If you lack the number of boots on the ground, you could find yourself in a predicament where you get overwhelmed by an angry mob. For example, you are leading a three-vehicle convoy in the city center with just a squad when three enemy insurgents attack with AK-47s. You return effective fire, killing or wounding the attackers. You dismount and secure the area. However, your return fire upset many citizens, and now you are surrounded. This is the dilemma. You can never take a patrol for granted.

The urban patrol, dismounted or mounted, must have sufficient Soldiers to secure a casualty, set up an overwatch/support by fire position, and maneuver. The challenge to this patrol is that, depending on the direction of the attack against you and where in your patrol you were attacked, every element must be prepared to assume each role. Leaders must establish standard formations with sectors of fire. If mounted, face out 360 degrees (do not have the Soldiers twist to look over their shoulders), ensure Soldiers alternate high-low in their sectors, and always attack into the enemy to kill or capture them.

Patrols for improvised explosive devices (IEDs) require boots on the ground. A mounted patrol for IEDs limits the ability to identify a potential IED and can provide a likely target since the vehicles travel slowly. The vehicles can trail the patrol to provide rapid response if needed. The purpose is to identify an IED, to eliminate any target for the enemy and destroy the IED in place. The IED patrol focuses on MSRs and avenues of approach in and out of battalion and

A Soldier with the 502nd Infantry Regiment watches over his sector during a mission in Iraq.

company command posts and logistics package (LOGPAC) routes. These three routes must be cleared prior to any movement, demonstrating the importance of the IED patrol for a company.

IED patrols require dismounted Soldiers with the lead team using binoculars, spotting scopes, or some type of magnified observation device. During hours of limited visibility, you will need high powered, hand-held spotlights. Your lead clearing elements must have interlocking fields of observation and never hesitate to halt the patrol upon anything suspicious. The trail teams must first provide overwatch, so the lead teams can effectively search for IEDs. The trail team's secondary task is to maneuver against enemy forces and/or cordon the area. You must rehearse this patrol because it is paramount to saving lives.

Routine dismounted patrols must be conducted in sector, despite the risks a commander may have in its execution. A mounted patrol through sector fails to provide adequate presence and does not lend itself to winning the hearts and minds of the local population. The best way to mitigate the risk is more Soldiers on the ground, meaning never patrol dismounted with less than a platoon. The dismounted patrol requires intense observation and readiness. Vehicles must be prepared to reinforce the patrol for an attack or exfiltration. These patrols must be conducted two to three times a week during specific times of the day to secure the environment and promote unity and cooperation in sector.

The dismounted patrol must have a purpose more than a presence. Platoon and squad leaders must engage store owners, bystanders, and others to gather information. This patrol provides the best means to a stable, cooperative company sector. Nevertheless, security precautions must be taken to protect the troops. First, three-dimensional observation must be maintained continuously. Second, communication between leaders, vehicles, and the company command post (CP) cannot be overlooked — higher command needs to know where you are! Third, treat it as a movement to contact even though you are out talking to the people. At any time, a grenade will come from the rooftops and you must go after them with violence of action and speed.

Leaders must be prepared to react to contact from any direction – left, right, front, rear, or above. The urban area lends itself to distraction – pretty girls, vendors selling soda or ice cream, vehicle traffic, large crowds around vendors, etc. In this threat environment, the enemy will choose the time, place and type of attack, and the enemy will run after a brief attack. It is up to you to react quickly enough to kill or capture them. Leaders must immediately maneuver against the enemy, while simultaneously isolating the area and providing overwatch for the maneuver force

or any casualties.

The mounted patrol occurs every day, whether conducting a dismounted patrol out in sector or attending a meeting with local officials. The mounted patrol requires constant vigilance by every Soldier. Leaders must have an SOP upon contact.

Soldiers cannot afford to relax during mounted patrols. In a four-vehicle patrol, the leader leads the convoy. The second truck maintains a mounted crew-served machine gun, as does the trail vehicle. The third vehicle can vary in its composition and purpose. The lead vehicle sets the speed and path of the convoy. His main purpose is navigation and searching for possible IEDs. When passing under bridges, gunners must observe the approach and then the departure on the other side of the bridge. Everyone has a purpose and everyone must know what to do upon contact.

The lead truck has a challenge as it navigates through the city. This is a leader's responsibility and should not be delegated. For example, I was leading a convoy in the evening hours – a popular time for ambushes and IEDs. As we approached a vehicle with a driver inside, I saw him on a phone through his rear window. He spoke on the phone and drove away before we passed him. I immediately changed our route by taking a right through a neighborhood, avoiding the intersection. I do not know if we avoided a possible IED ambush or not, but it is better to suppose that this car and its driver were an early warning for an ambush.

One place enemy forces emplace IEDs is at key intersections, where our vehicles slow down and get closer to one another. In addition, speed of travel is an ally here. Leaders must balance speed and safety in their travels. The last thing we need to do is run over Iraqi pedestrians and vehicles, or flip one of our own. However, it is harder to attack a convoy if it is moving at a high rate of speed.

Lastly, units will conduct hundreds of cordon and searches – all different with varying degrees of aggressiveness on entry. These operations emerge from human intelligence against a specific target or during a "neighborhood surge," meaning Soldiers flood an area to search homes with or without permission. The level of aggression will be determined by your command. Basic task organization still applies as every leader learns in military schools. However, units can NEVER fail to isolate a target. Isolation of an objective must be paramount in planning these operations, especially in this urban environment.

Urban environments present so many threats, ranging from rooftop shootings and drive-by shootings to civil unrest against the cordon and search. Leaders must isolate the objective and sub-objectives throughout the entire cordon and search operation. Isolation does not stop at the block where the house is located. It goes from there to the house to the front door and into each room in the house. Isolating each portion of the objective protects your Soldiers and allows you to react to any contingency that may arise during a search. Isolation requires more forces, but it facilitates a smooth operation by reducing distractions and threats to your Soldiers.

Home Station Training

You must train your Soldiers in battle drills and take the necessary preparations prior to your arrival. We learned as we went along day-by-day. AARs and hotwashes every time are key to success, but training at home station or in an intermediate staging base (ISB) can greatly improve your chances for success and survival. Second, units must prepare their vehicles for patrols and force protection in static positions. Third, everyone needs to critique themselves and the unit to refine and improve their actions on the battlefield.

Actual training for this threat environment remains fairly standard – minus certain non-standard situations not found in many mission training plans (MTPs). The urban environment in Iraq can be replicated at any military post urban training site. I would focus on four aspects in training:

☐ Marksmanship;

> **Marksmanship is the core of excellence for an infantry Soldier. Their proficiency in killing wins the battle. The more you suppress a target here without killing or wounding the enemy, the bolder he becomes in attacking you.**

☐ Casualty evacuation (CASEVAC), including aerial;

☐ Enter and clear a building and room; and

☐ React to contact from a vehicle, a non-standard task and dismounted.

Each of these training areas must be graduated in difficulty and in an urban threat environment. A unit that trains on these areas with an unrelenting focus and discipline will succeed in this environment.

Marksmanship is the core of excellence for an infantry Soldier. Their proficiency in killing wins the battle. The more you suppress a target here without killing or wounding the enemy, the bolder he becomes in attacking you. You need to train your Soldiers to aim, fire, and kill. If an enemy opens fire with an AK-47 aimlessly, which most do, you should be able to calmly place the red dot reticule of your M-68 optic device on his chest and kill him with one shot. If you do this, the rest will run and probably not come back. This skill takes training, patience, and sadly, experience.

Units must familiarize themselves with every weapon system in a battalion. Soldiers must know how to load, fire, clear, and reduce stoppages and misfires of every crew served weapon. In combat, due to personnel changeovers, a Soldier may be behind a mounted .50 caliber machine gun or M240 machine gun at any given time. He does not need to be qualified, but he needs to know how to operate the weapon. Units must set up concurrent training at every range, utilizing training on every weapon. Leaders should also familiarize their Soldiers with hands-on training with foreign weapons, including AK-47s, (RPKs), rocket propelled grenade (RPG) launchers and warheads, and PKMs (Pulemyot Kalashnikov machine guns). Soldiers will deal with these weapons daily.

Soldiers need reflexive and quick fire training, using burst fire. Do not ignore 9mm, M249 Squad Automatic Weapons and shotguns. This training is the most practical aspect to succeeding in this urban combat. As the Soldier's proficiency increases, leaders need to reduce target exposure on computerized ranges. Enemy insurgents fire from rooftops and then hide, popping up and down. Second, practice weak side shooting and tactical magazine changes on the reflexive firing range. Third, conduct a terminal effects

Staff Sergeant Ronald Mitchell

A 502nd Infantry Regiment Soldier confiscates an AK-47. During home station training, Soldiers should at least be familiarized with the handling of foreign weapons such as the AK-47.

demonstration on engine blocks, vehicle doors, concrete, and various materials, using FM 3-06.11 as a guide. This training will help leaders choose the right weapon system and facilitate decision-making in combat. Lastly, let your Soldiers move around on the range — from the zero range to the qualification range — with loaded weapons, allowing the reinforcement of muzzle awareness and safety.

Casualty evacuation requires training at every level. First, do not let a casualty take your focus away from a combat engagement. You must remember that your purpose is to fight and win. Let your first sergeant guide and direct CASEVAC. Leaders need to train casualty evacuation for three purposes. First, combat medics must train under the most realistic scenarios possible, using simulation and degrading symptoms. Many technologies exist in this area — find them and use them. Second, integrate casualties into everything, but with a focus on maintaining the fight against the enemy. Third, train every Soldier in making assessments in casualty priority, placing a tourniquet, and calling in a four-line medical evacuation (MEDEVAC).

Combat medics are a saving grace and will become your favorite and most valued Soldiers. Unfortunately, the ratio between missions and medics is skewed, requiring training at the individual Soldier level. Combat lifesavers must be maximized by the battalion, and do NOT forget your support platoon — who will drive more than anyone else in the battalion. Supply your medics with four tourniquets each and each Soldier with one tourniquet. We use a mini-ratchet strap that is one inch wide and long enough

to wrap around the thigh of a Soldier. It is the most rapid means of saving a Soldier from blood loss. Trust me, it saved four of my Soldiers' lives, not counting another dozen in the battalion.

Mounted react to contact drills are a necessity in urban contact. Units will move to and from many locations for missions, finding themselves more vulnerable on a vehicle. Leaders must focus on three areas in this training. First, Soldiers must maintain 360-degree security and alternate high-low. Second, leaders cannot forget dismount drills upon contact. Lastly, although never really accurate, Soldiers must train on mounted firing while moving. These three areas are key to success in a mounted react to contact. Leaders must also consider the placement of their mounted weapons in their convoy. Remember, the heavy weapons do no good if they are in the front of your convoy.

Company Civil-Military and Information Operations

This topic deserves serious attention from our senior leaders. I feel we lack the experience, training and resources at the brigade level and down. We need to implement this facet of full spectrum operations more into our Army education system and equip the "boots on the ground" Soldiers with the capabilities. Nevertheless, these shortcomings do not give an excuse for a lack of company efforts in information and civil-military operations. Creativity and initiative by company commanders make the difference.

Civil-military and information operations (CMO/IO) are not mutually exclusive. Commanders must take personal responsibility of these efforts. CMO/IO reinforce the success of each undertaking. The more successful CMO is in your sector, the more positive your IO will be for you. Brigade prioritizes CMO at the company level, meaning you are directed to focus on certain projects for the community. These projects will include schools, utilities, sanitation, and reconstruction. IO, however, provides a company commander an opportunity to take control of his sector, earning the respect of local officials and citizens.

Information operations are simple at the company level. IO has two purposes. First, you must distribute information to the people. Uninformed citizens in a country we just subjugated in war have the potential to demonstrate and possibly riot. You must inform them of your goals and actions. Second, IO involves not only passing out information, it requires the collection of information. The development of an informed populace and involvement of community leaders by a commander leads to information about hostile threats and benevolent projects.

The first step in CMO/IO is to identify in priority areas to be funded for CMO. Simultaneously, commanders need situational understanding of the mindset of the sector. There are many TTPs that help in accomplishing this assessment. First, commanders need to determine who can help them. I broke my focal groups into business, education, political, and religious. Since we were the first forces into Mosul, Iraq, my Soldiers and I had to get out into the streets and meet people. We developed a "list of influence" and began developing relationships.

On September 13, 2003, one of my platoons was ambushed, wounding three of my Soldiers. The platoon was ambushed in a congested urban area with narrow alleys. After linking up with

the platoon and conducting an aerial medical evacuation, a member of an Iraqi political party called me and said he saw the ambush and knew the attackers. The attackers were not home, but these men watched the houses of the attackers for 48 hours. They called me at 0200 to inform me they were home. The brigade commander gave us approval to conduct a cordon and search. We infiltrated the neighborhood, linked up with our "informants," and grabbed the attacker. This ambush cost the leg of one of my Soldiers, and through relationships we caught the culprit.

Leaders must understand the environment prior to committing blindly to some CMO plan. I had no true understanding of the mindset of the citizens in my sector. In addition, there were no performance measures of effectiveness to determine any success we were having in our efforts. Consequently, I developed a survey of attitudes and needs in Arabic that was common across all my sub-sectors. My Soldiers hated this at first, but in the end we saw where we needed to be and what we needed to do. This situational understanding is vital to CMO/IO. Performance measures of effectiveness prevent wasted efforts, allocate resources efficiently, and focus your company on valid, verifiable priorities.

Force Protection

Force protection must remain on the forefront of every leader's mind. Protecting your Soldiers requires a tough balance between the safety of your Soldiers and mission necessity. Many times in this environment leaders will avoid missions in order to protect Soldiers. This bad habit is not force protection. We protect Soldiers to maintain combat power for mission accomplishment and to bring them home. Force protection has been alluded to throughout this discussion, but two areas demand specific attention — vehicle preparation and compound security.

Vehicle preparation prior to arrival in theater saves lives. As the first combat unit to assume mission in Mosul, we had to learn the hard way. Vehicles must be prepared in a manner that protects the Soldiers from shrapnel and rifle/machine gunfire. A tough decision must be made with respect to sandbags in the trucks. The M998 HMMWV will experience thousands of miles. The weight of a combat-loaded infantry squad with over 50 sandbags will deteriorate a M998 quickly. The sandbags will save the lives of Soldiers, but they do not protect the M998.

Armor plating along the doors of the drivers and passengers and along the benches in the back of the M998 protect Soldiers. On December 26, 2003, we were ambushed while clearing an intersection of IEDs. After one explosion and a fusillade of fire from two enemy machine guns, we inspected the trucks and found that the armor plating on the doors and back of the M998 had withstood the explosion and machine gun impacts, saving the lives of more than 10 Soldiers.

Security is timeless in military operations. During mounted movements in an urban environment, vehicles must have three-dimensional security. Threats can come from anywhere at anytime. Leaders must prepare their vehicles to facilitate 360-degree security. We placed benches inside every HMMWV (high mobility multipurpose wheeled vehicle) and LMTV (light medium tactical vehicle). I do not know if we were the first ones to do this, but we did recognize this early on, due to AAR comments by Soldiers.

An RPG will hit you so fast that if Soldiers are not in the proper security position, you may never know the origin of fire. Simple wooden benches so Soldiers can sit back-to-back improve security, increase offensive capabilities, and enable units to gain the initiative quickly.

Static compound security remains ever-present on the battlefield. Commanders need to balance mission requirements with protecting their company command post or battalion TOC. Every compound will be on a road so vehicles can gain access. Some locations permit you to shut down all civilian traffic and some areas will not allow this isolation. The difference in successful or "just-surviving" compound security can be the active versus passive measures taken by a unit.

Static security in an urban area requires a presence outside of the walled compound. Commanders need to dispatch patrols during varying times, not only to clear IEDs, but to clear unoccupied buildings, search for fighting positions, occupy OPs, etc. Active, aggressive methods to push your security blanket farther out than your walled compound protects your Soldiers, allowing them to rest and plan comfortably. Commanders must implement a combination of active and passive measures to isolate their company compound as much as possible.

American Soldiers are facing men with a cell phone in one hand, an RPG in the other, and ill-conceived hatred in their heart. This enemy is asymmetric in the most unpredictable way. Technology only enhances the Soldiers' capabilities to kill the enemy and win their hearts and minds simultaneously. In the end, U.S. Soldiers must meet the enemy – specifically terrorists – face-to-face, hand-to-hand and kill them. Company commanders must bring to bear creativity, aggressiveness, and an offensive spirit to take away the enemy's will. In the end, gather information on enemy targets and then narrowly target them with overwhelming combat power.

Throughout this conflict, I discovered that most things taught in Army schools remain valid and worth remembering during my decision-making process. The most important factor that was reinforced to me that applies to everything discussed here is the necessity to conduct combat AARs after every patrol, whether there was contact or not. Second, troop leading procedures are vital, especially conducting a reconnaissance, rehearsals and building a terrain model, and supervising platoon and leader operation orders and rehearsals. Third, and most important, maintain an offensive spirit always. Look for the enemy to shoot at you, shoot back and kill or capture them. Bold leaders are dangerous and that is what you want in them as they fight this fight.

Editor's Note: *Captain Miller also provided some example TTPs and SOPs that he used while in Iraq that we did not print due to operations security (OPSEC) concerns. The examples along with a more comprehensive version of his article will be placed on the Infantry Magazine section of the Army Knowledge Online Web site. See page 53 for more information on the Web site.*

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The Tower of Babel?
Joint CAS Operations in Afghanistan

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"Babel: In the Old Testament, a city in Shinar where the construction of a heaven-reaching tower was interrupted when the builders became unable to understand one another's language."

— ***The American Heritage Dictionary of the English Language***
Houghton Mifflin Company, New York, 1992.

Parked in the North Arabian Sea, the USS John C. Stennis catapults a section of F/A-18s into the night. The lead and wingman are armed with one joint direct attack munition (JDAM), one AIM-9 and 500 rounds of 20mm each. They head north to provide on-call close air support (CAS) in support of Operation Anaconda (OA). As they arrive overhead the Shah-e-Kot Valley, the lead switches the auxillery radios to the tactical air direction (TAD) frequency given to him by AWACS (Airborne Warning and Control System). He has been given no mission brief of any kind up to this point. He has not been given a control point (CP) that designates his CAS holding point. He knows who is on the air tasking order (ATO) and that this is where the action is, but he really doesn't know where anyone else is located or what friendly and enemy situation is on the ground. He has a frequency and a terminal controller's call sign.

After establishing communications with the terminal controller, the controller has the lead aircraft advise when he is ready to copy the 9-line.

"Ready."

The controller starts off: "Lines 1-3 N/A."

"Roger that..."

As the section of Hornets dodges the co-altitude EP-3 and passes over the Predator flying a couple thousand feet below them, they copy the abbreviated 9-Line and prepare themselves for the attack.

All the controller really wants is to give the pilots a precise coordinate, have them program the JDAMs, and let em' rip. The target is a mortar pit. The lead asks for an attack axis, which the controller provides. The altitude given is a round number: 9800 feet. The wingman takes high cover, and as they go through the very careful process of verbally crosschecking the accuracy of the precise coordinates, another voice breaks in on the TAD frequency. It is another controller who immediately proceeds to provide a different 9-Line.

The two controllers then engage in a free-text, plain English discussion of who gets the aerial fire support.

"What's your target?"

"Mortars."

"So is mine."

"Well, are yours firing at you?!?!"

"No."

"Hey listen ... have you cleared this through the brigade ALO (air liaison officer) or the FSC (fire support coordinator)?"

Gas for the jets starts to become an issue.

The terminal controllers sort out the priority of fires and the lead delivers his JDAM. It misses by 200 feet. The controllers decide to switch to a different mortar pit, and the pilots again go through the process of crosschecking the coordinates being entered into the weapons system. The altitude given is, again, a round number: 10,200 feet. As the wingman sets up his attack run, the AWACS controller comes up on the common freq to tell a B-52 that he is "cleared hot" to drop leaflets. Dash 2 jumps on the auxiliary radio to preemptively assure lead that he has not been fooled, and that he understands that the clearance given was not his.

Dash 2's JDAM misses too. It is off by 150 feet. Lead asks for the bomb hit assessment. The controller reports that the JDAM did not hit the targets but did hit close to the targets. After a couple of questions from the lead, the controller acknowledges that there was "No effect on target." Off target, the outgoing F/A-18s dodge an inbound section of A-10s as they head to the tanker.

The mission presented above was ineffective and inefficient. Piecemeal situational awareness (SA), an absence of any kind of agreed upon joint procedures, communications discipline that bordered on the dangerous, and ultimately, no effect on the target characterized this mission. The tale is not an embellishment or a composite picture from various missions. It is the summary of an actual mission. Unfortunately, this mission is representative of joint CAS missions in support of engaged ground forces during Operation Anaconda. Extremely competent and highly trained professionals on the ground and in the air worked together to "make it happen" and deliver deadly fires to the enemy. Ground controllers identified targets and, more often than not, attack aircraft hit those targets. However, there are enduring themes in this mission that bring into question our ability to effectively and efficiently provide aerial fires in support of the ground combat commander (GCC). This mission is representative of the way that CAS was carried out in support of conventional ground forces engaged with the enemy in Operation Anaconda. Is this a problem? Yes. Will it repeat itself? Maybe.

It is important to examine the performance in executing CAS missions in Afghanistan because CAS is one of the defining expressions of joint operations at the tactical level of war. This is

where service forces come together as a joint force on the tactical battlefield. Although some of the most important aspects of J-CAS reside at the operational level of war, net effectiveness and efficiency is manifested at the tactical level. How well you execute CAS missions is a key indicator of overall joint effectiveness.

If CAS performance is an overall indicator of joint performance, then given our performance in Operation Anaconda, we did not execute as an effective joint force. Poor CAS performance resulted from a lack of adherence or even an understanding of joint doctrine. Given the prospect for continued application of joint combined arms in the War on Terror, we must examine this performance and commit to change — fast. To change for the better, we must agree to build the operational architecture that's provided for in Joint Pub 3-09.3 - *JTTP for Close Air Support*.

This article examines the specifics of that proposition. It catalogues observations of joint-CAS (J-CAS) performance in Afghanistan and provides specific recommendations for action which will improve performance on the battlefield.

OBSERVATIONS FROM AFGHANISTAN

Operational and tactical execution as a joint force in Operation Anaconda was less than disciplined. We did not adhere to agreed upon fundamental mechanics. The following section catalogues how the poor implementation of warfighting basics resulted in a level of performance that fell short of the mark. These performance issues are not new. The amount of self-induced friction experienced by all players during the operation in question was so significant that a J-CAS conference was convened at Al Jaber Air Base in Kuwait immediately after the operation in an attempt to identify and correct the problems.

Here are many of the identified problems:

• While there was some understanding by aircrew of the commander's intent and the ground scheme of maneuver at the outset of the operation, there was little understanding of how aerial fires supported the ground scheme of maneuver after the infantry took the field. There was even less awareness of where the forces were located and what their objectives were as the operation progressed.

• There was no dedicated, traditional airborne command and control. The Air Force Airborne Battlefield Command and Control Center (ABCCC) C-130 was not on the force list. The role was given to AWACS, but they did not have the workstations or the experience to fill the gap. Consequently, aircrew did not receive check-in briefs, updates or procedural control.

• The Army did not have a full-up air support operations center (ASOC) capable of translating the commander's intent into a priority of fires. This created confusion/friction as terminal controllers fought for aerial fire support assets on an ad hoc basis over a single TAD frequency.

• There was no traditional CP/IP (control point/initial point) matrix. What was used was a holdover from the initial armed reconnaissance phase of Operation Enduring Freedom, which was nothing more than a very simple grid system based on latitude/longitude coordinates. This system was adequate for positioning attack/support aircraft for presence missions, holding tracks, and refueling tracks, but it was not adequate for providing the qualitative system required to enable controllers to construct

effective attack missions. This was because there were no IPs established for which optimal geometry could be created for the aerial attack runs. The absence of a satisfactory CP/IP structure and standard procedural control resulted in heavy bombers making attack runs over the top of TACAIR (tactical aircraft) that were on attack runs in the same airspace with helicopters of various types in that same target area.

• Standard comm architecture was not adhered to. Rather than having a discrete TAD freq assigned to individual terminal controllers or units, a single TAD was used. (This was in part due to the requirement for the combined air operations center [CAOC] to monitor all release clearances through AWACS.) This created confusion when multiple controllers attempted to control a single aircraft element.

• Standard communications brevity was not used and comm discipline was poor to the point of being dangerous.

• AWACS transmitted "cleared hot" relay calls from the CAOC to strike aircraft on the strike common frequency. Other attack aircraft monitored that same frequency while working with terminal controllers over the TAD frequency in their other radio. Aircrew in CAS aircraft, for whom the clearance was not intended, stood the chance of mistakenly delivering ordnance based on a "cleared hot" that was intended for other strike aircraft being controlled by the CAOC through AWACS.

• Some terminal controllers shied away from the responsibility of clearing aircraft "hot" by using the terms "cleared to engage" or "cleared to fire." Some aircrew were not sure what these terms dictated or even implied.

• Some doctrinal terms looked like and sounded like traditional fire support coordination measures but were used in non-doctrinal, sometimes dangerous ways. Free fire areas (FFAs) were not FFAs as defined by joint doctrine or the DOD dictionary. In this example, FFAs were plotted on maps in the carrier intelligence center as promulgated through the SPINS (ATO special instructions) and the intelligence network. When aircrew sought clarification on this control measure, they were told that the FFAs, as promulgated, were not really FFAs that allowed free engagements in that area, but were some type of control measure that was intended for ground forces only. Such misuse caused great confusion and bore potential for even greater disaster.

• Terminal controllers seldom used J-CAS 9-Line briefs. When they did, Lines 1-3 were listed as "N/A."

• Time on targets (TOT) were not used. The use of a TOT is not required and sometimes not appropriate. This is especially true when permissive CAS procedures are being used, volume of fires is not an issue and/or targets are relatively static. In this operation however, the absence of TOT as a control measure created a very "open ended" enterprise that increased individual aircraft

time overhead the target area. This had the net effect of reducing the aggregate number of aircraft that delivered fires in that target area.

• Aircrew were very rarely provided a "mark." Like the TOT, a mark is not a requirement for CAS. Marks may not be appropriate when employing J-Weapons (joint weapons) and positive visual identification of the target by the aircrew is not required. But J-Weapons are not the only weapons in the inventory. For example, MK-82's with VT fuses were used as a weapon/target match against personnel in the Shah-e-Kot Valley and positive identification was often required. And while a mark may not be a requirement for CAS, it is listed in JP 3-09.3 as being one of the nine determining conditions for effective CAS. When a mark was used in Anaconda, it was generally a laser mark, which worked extremely well for aircraft with laser trackers. But not all controllers had suitable lasers and not all aircraft had laser trackers. The absence of a visual mark increased the time required to acquire the target, which increased time-to-kill and decreased the overall number of aircraft available to the ground combat commander.

• The quality of visual "talk-ons" by terminal controllers to a target was poor. Aircrew would often have to terminate the talk-on to go to a tanker to extend their time on station. Sometimes the aircraft were

Sergeant Keith D. McGrew

Operation Anaconda occurred in February and March 2002 as part of Operation Enduring Freedom. During the operation, Coalition forces moved through mountainous regions of Afghanistan searching for Taliban and al Qaeda fighters.

merely sent home. Once again, this decreased the overall number of aircraft available to the ground combat commander.

• Target elevations were sometimes only very roughly estimated which detracted from the effectiveness of GPS (global positioning system) guided munitions.

• Procedures and requirements for using airborne forward air controllers (FAC[A]) were confused with procedures and requirements for working with a ground FAC or enlisted terminal controller (ETAC).

All of the issues catalogued above are violations or aberrations of joint doctrine by either "letter" or intent. When examined in total, our warfighting record for the operation is less than acceptable. To put this record into perspective — tactical performance by the community was good. Professional warriors demonstrated technical proficiency in the mastery of their complex weapons systems. Most significant to OEF and OA were the new weapons and aircraft used in support of special operations forces (SOF) in the CAS role.

SOF CAS AND CONVENTIONAL CAS

Operation Anaconda (OA) was a small operation that took place within the larger context of Operation Enduring Freedom. Operations prior to Anaconda relied primarily on Special Forces who employed precision munitions delivered by coalition aircraft to break the back of Taliban and al-Qaida forces. OA on the other hand, used conventional forces and somewhat more conventional tactics in an attempt to target remaining pockets of al-Qaida fighters. The procedures and tactics used during Anaconda were largely representative of the procedures used during the SOF phase of combat. During the post-Anaconda CAS Conference in Kuwait, all agreed that poor performance in Anaconda was due to unsatisfactory procedural implementation and execution. Poor performance led to an examination of procedures and tactics used when working with SOF teams which initiated the inevitable discussion of whether or not the delivery of aerial fires in support of SOF is CAS. Many argued that it is not. That is a tenuous and dangerous position.

The two defining components of CAS are proximity of friendly combat forces to enemy forces and a requirement for detailed integration between the ground forces and the air forces. The Joint Doctrine Encyclopedia says that:

CAS can be conducted at any place and time friendly combat forces are in close proximity to enemy forces. The word "close" does not imply a specific distance; rather, it is situational. The requirement for detailed integration because of proximity, fires, or movement is the determining factor. CAS provides firepower in offensive and defensive operations to destroy, disrupt, suppress, fix or delay enemy forces.

Given this definition, the most compelling of the two requirements is the requirement for detailed integration. The most common mistake in defining this "integration" is to assume that integration is defined by the coordination required to deliver fires short of the fire support coordination line (FSCL). This argument says that fires beyond the FSCL are permissive, and that there is little need for integration. It says there is no need for CAS TTPs when supporting SOF operating very deep. Chances for fratricide are small because of SOF's small footprint and the absence of a defined Forward Line of Troops beyond the FSCL. It argues that tactical procedures are inappropriate for forces that may be executing a strategic mission.

This argument is flawed. There may be

less of a chance of fratricide due to the exceptionally small footprint of an SOF Team, but the level of detailed integration required between a section of aircraft with live ordnance and an SOF Team on the ground is no less important. SOF teams deploy early in an operation and have little opportunity for prior planning and coordination. This creates a requirement for shared language and standardized procedures. In SOF CAS, there is still a potential for fratricide and unacceptable collateral damage through mis-ID or a poor attack plan. There is still a requirement for an effective attack that brings the appropriate effect on target while minimizing the exposure of the SOF team. There is still a requirement that high tempo fires be made available to the teams. This requires an efficient attack so that attack aircraft get in and out to make way for the next attack element. And there is still a danger of mid-air collisions between attack and support aircraft if appropriate control measures are not used. No TTP's exist outside the bounds of CAS that provide the procedural discipline to satisfy these requirements. By definition and by practicality, aerial fires delivered in support of Special Forces is close air support.

While it is understandable that the unique characteristics of CAS in support of Special Forces produce doctrinal discussion, it is disconcerting that a convincing argument should have to be made to support the practice and use of J-CAS TTP's in the execution of a conventional fight. Current JCAS doctrine is time tested and relevant. Born out of the requirement for orchestrating high volume of aircraft originating from many different locations, operated by four different services supporting multiple ground units in contact with the enemy, it is designed to efficiently match a perishable air support asset with a need. Therefore, disciplined procedures are required for a number of reasons.

Due to the fluid and relatively large (sometimes massive) footprint of conventional forces on the ground, the opportunity for fratricide is extremely high. The Gun-Target-Lines of indirect fires and their trajectories must be accounted for. The volume of aircraft will probably be much higher than in a deep, SOF team scenario and the requirement for efficiency that provides tempo will be commensurately higher. There will likely be a much greater potential of exposure of attack aircraft to the threat as commanders assume higher risk in order to support and defend the ground combat element.

These factors point to a compelling need for the employment of J-CAS doctrine.

JCAS AT THE TACTICAL LEVEL

Tactical level is the point where terminal controllers receive their direction from ground commanders, coordinate requirements through the C^2 architecture, and interface with aircrew for the terminal control of aerial fires in support of the ground commander. This article will attempt to make the same case for an understanding of the tactics and techniques that are catalogued in Joint Pub 3-09.3, *JTTP for Close Air Support*. It will not, however, attempt to make the case that those tactics and techniques must be adhered to. Tactics are the thoughtful outcome of planning by trigger-pullers who look to achieve mission objectives in consonance with commanders intent with respect given to the threat and in accordance with the Rules of Engagement. Therefore, tactics can never be prescribed.

Still, there must be a common understanding and appreciation of the various J-CAS tactical and technical foundations on which we train in peace so that there is a satisfactory level of interoperability to our tactical applications in war. Given our performance in Afghanistan and the Joint conversations that followed, it seems that some understanding of the importance of certain J-CAS fundamentals have become lost or confused over time. This article offers an opportunity for a re-evaluation Joint Close Air Support (J-CAS) fundamentals by making a case for the utility and use of

Recommendations to improve JCAS at operational level

⇨ Commanders should ensure that all operators involved in an operation get an overview of commander's intent, ground scheme of maneuver and priorities of fire. Ensure that these are updated regularly. This information should be pushed to major subordinate commands – not merely posted on a secret internet protocol router (SIPR) Web site.

⇨ Operational-level planners should design airspace control measures, especially the CP/IPs, as a team effort between the GCC (ground component commander) and the ACC (air component commander).

⇨ C^2 should provide a check-in brief to aircrew that maximizes their situational awareness.

⇨ Ground combat commander should ensure that the ASOC/DASC coordinates with the FSC to establish and assign priorities of fire.

⇨ ATO planners should declare the C^2 language that will be used and stick to it.

⇨ Operational level planners should ensure that the communications architecture is constructed keeping in mind the tactical end state. The use of a common frequency (such as an Air Defense Net or a positive control AWACS frequency is acceptable as long as only correct, disciplined communications are used. Ensure that terminal controllers are assigned discrete frequencies to the maximum extent possible.

⇨ Everyone should know Joint Pub 3-09.3, *JTTP for Close Air Support*. When arriving in theater, be prepared to comply with joint procedures out of the joint pub. Also be prepared to adapt or create tactics given the mission, commander's intent, the threat and the ROE.

⇨ Remember to communicate. Understand where and how the commander is deviating from joint doctrine. Provide appropriate feedback during the course of combat operations either real time or through the chain of command.

⇨ Update doctrine immediately upon cessation of hostilities. Ensure that after action reviews get submitted to the Joint Lessons Learned System.

select CAS tactics and techniques that were most under-utilized in Afghan operations during Operation Anaconda in February-March of 2002.

WHO NEEDS A CHECK-IN BRIEF?

Who needs a check-in brief? "Get your gas. Check in with AWACS. Go hold where you're told. You will get your information from the forward air controller (FAC) or the enlisted terminal air controller (ETAC) soon enough."

This is not the correct way to operate under any circumstance. Valuable time is lost that aircrew could use to prepare themselves for the mission. Aircrew need answers to questions that can be answered while in CAS holding: Where is the fight? Do I have the right chart out? What is the lay of the land? What is the current threat? How will the threat affect my desired/required weapons delivery parameters? Where is arty? What batteries are hot? Is there a prepared 9-line waiting for me that can be passed through the controlling agency? Is the controller using a hasty Initial Point that was not in the SPINS?

Providing a check-in brief gets the aircrew "out in front" in an enterprise that requires a clear mind for sound judgment and split-second timing that will result in effects on target. The C^2 agency providing the interface and connectivity between the ground combat element and the attack aircraft is critical in providing this information. C^2 platforms come in many shapes and sizes: USAF ABCCC in the form of a C-130, AWACS or JSTARS; Marine Direct Air Support Center (DASC) or DASC(Airborne); or USN E-2C. Regardless of the platform, it is essential to understand how critical the check-in brief is to aircrew and to their enhanced potential for a successful CAS mission.

WHAT IS THE IMPORTANCE OF THE ASOC/DASC?

A primary task of the ASOC or the DASC is to translate the commander's intent to the many types of aircrew in the form of priority of fires as directed by the ground commander's FSC in a very short period of time. The ASOC/DASC are co-located with the FSC and provide the FSC with updates on aircraft, ordnance and TOS available. The FSC gives direction to the ASOC/DASC for the assignment of those aircraft to units/controllers based on focus of effort and priority of fires. The ASOC/DASC takes the FSC's direction and assigns aircraft to specific units/controllers. They also provide routing for the aircraft to ensure deconfliction from other fires and other aircraft. This is transparent to the aircrew but is critically important since aircrew are normally based hundreds of miles from the ground elements and are normally not privy to the latest developments of the ground battle. They may or may not talk directly to the ASOC or the DASC depending on the C2 architecture in place. All the aircrew knows is that they have been assigned a TAD frequency and a controller along with other essential elements of information contained in their check-in brief — information that most likely has changed since they planned the mission due the fluidity of the ground battle. The aircrew switches frequencies and executes. It's that simple and that critical.

WHY ARE LINES 1-3 OF THE 9-LINE BRIEF APPLICABLE?

Sample 9-Line Part 1

Of all of the concepts, procedures and tactics that require an explanation of "Why we do it that way," the need to explain the utility of the J-CAS 9-line brief is the most troubling. Some operators in the Afghan operation argued that there is little requirement for a 9-line at all. These operators contend that a derivation of precise target coordinates make possible the employment of accurate weapons such as JDAM and obviate the need to plan attack geometry or to coordinate timing and flow. Others see the utility in the standard briefing format, but do not appreciate the benefits of the first three lines.

Granted, there are times when a 9-line is not required. In a permissive, low tempo environment with a relatively low number of targets, good weather conditions, and attack aircraft with a healthy amount of time on station, a terminal controller is justified in bringing a section of aircraft or two over the target area and talking their eyes on to the target. Under the same conditions with a FAC(A) controlling, the FAC(A) is probably going to arrange for a rendezvous with the attack aircraft and lead them to

Sample 9-Line Part 2 (form)

Remarks Threats as a minimum: Man Pads, Automatic Weapons, Small Arms

THREAT	THREAT	THREAT
SUPPRESSED?	SUPPRESSED?	SUPPRESSED?
VICINITY OF GRID:	VICINITY OF GRID:	VICINITY OF GRID:
GTL:	GTL:	GTL:
MAX ORD:	MAX ORD:	MAX ORD:

Hazards

(WX, Friendly Fire, Hi/Lo Targets, etc.)

Enhanced Target Description / Talk-On

(BIG TO LITTLE, STEP BY STEP, UNIT OF MEASURE, ETC.)

Attack Restrictions *In Relation to Target Line*

Restricted Attack Heading:	(°M)
Ordnance Selection:	
Danger Close, Friendlies	(m) Ground CC Init:

Timing Options CONFIRM FAC HAS GPS TIME

TOT:	(Confirm GPS Time)
TTT: "_____ PLUS _____ _____, READY, READY, HACK"	

Control Instructions (GROUND CC APPROVAL / VALID TARGET)

"Call Departing IP, Report in the Pop, Expect Clearance on Final"
"Call Departing IP, Call in with Direction, Expect Clearance on Final"
"Call Departing IP, Call in with Direction, Call Visual Friendlies /Tally Target, Expect Clearance on Final"

BDA:

Successful / Unsuccessful:
Target Coordinates:
Time on Target:
Specific Results: (DESTROYED, DAMAGED, UNKNOWN, UNOBSERVED)

Notes

Request Tactics: Shooter Shooter/Shooter Cover

Sample 9-Line Part 2

the target area where he will provide a mark or a talk-on. However, in most other circumstances a 9-line can or should be used.

The obvious circumstance that dictates the use of a 9-line is when the threat is moderate or high and restrictive CAS procedures are used. The standard attack format is used along with a TOT to reduce the exposure of attack aircraft to the threat. Not much argument here. The argument arises when the threat level is medium to low. In this case, there times when a more developed attack can be planned and transmitted via the 9-line brief. 9-lines can be used when aircraft time on station is low due to aircraft type, ship/airfield location, availability of tankers, etc. The increased level of planning for the attack and the coordination of a mark will pay great dividends in the form of significantly reduced time required to acquire and kill the target which maximizes the productivity of that time on station. The same can be said for the scenario of low threat, good weather, good time on station... but a relatively high number of targets. This scenario requires a greater number of aircraft over the target area in order to kill as many targets as possible before they either mass for an attack or flee.

The more restrictive measures of a 9-line brief impose geometry that improves the flow of aircraft and, if a mark is used, reduces time to acquire the targets by the aircrew. The net effect is a greater number of aircraft in the target area over a given amount of time, which increases the potential to kill targets. Finally, 9-lines should be used when the controller wants to control the geometry of the attack when there is even the most remote chance for fratricide or unacceptable collateral damage.

Many operators accept the utility of the standard attack format for the reasons covered above. They believe that lines 1-3 are unnecessary and that the remaining lines provide required information such as target elevation and target description. Or they transmit the 9-line because the JTF commander requires them to, but opt out of the full 9-line by transmitting "Lines 1-3 N.A." They do not understand how critical lines 1-3 are in developing an effective, efficient attack.

Lines 1-3 are applicable. The first three lines provide the initial point (IP), heading (as well as offset direction) and distance to the target in one burst transmission. They increase the odds of a successful attack to a degree that far outweighs the time it takes for a controller to generate the geometry and the time it takes aircrew to copy the information down. As mentioned above, precise attack geometry reduces the odds of fratricide by dictating the bomb fall line. (Offset direction is critical here.) Precise attack geometry also ensures greater effect on target by taking into account terrain in terms of target acquisition, uninterrupted laser energy, and impact angle of the ordnance (especially in mountainous terrain). It increases the odds of first pass target acquisition for the aircrew. Pre-planned attack geometry also increases the odds of first pass acquisition of the attack aircraft by the controller so that he can provide the aircraft a "cleared hot".

Using Lines 1-3 also increases effectiveness throughout the area of responsibility (AOR) by optimizing aircraft flow and providing deconfliction. Because pre-planned CAS missions are vetted through the ATO planning process and assignment of CPs are an essential part of that process, flow into and out of the target area can be optimized and mid-air collision potential reduced. This benefit also occurs in the case of immediate requests because those requests are routed in the form of a joint tactical airstrike request (JTAR), and the JTAR is routed through close air support request channels. If a JTAR is approved by the senior fire support control agency, the mission will be transmitted back to the requesting unit with mission data that includes an assigned CP. The optimal CP is chosen if the ASOC/DASC knows what IP the controller wants to use. The ASOC/DASC transmit the mission data directly to the aircraft or to other C2 agencies who relay the information and the assigned CP. Aircraft deconfliction takes place when a C2 agency uses positive or procedural control to route aircraft to and from CPs throughout the AOR. This routing also provides deconfliction from other fires to include mortars, artillery and naval gunfire. Creating the attack geometry for the pilot and transmitting it in a standard 9-line format provides the critical functions of optimizing the effect of the attack and providing efficient aircraft flow and deconfliction.

WHO CREATES IP'S?

The understanding for the importance and determining

characteristics of the IP has been lost. Terminal controllers must have well thought out options from which to execute final attack planning. Terrain, location of friendlies, scheme of maneuver, threat axis and location, locations of indirect fire assets and aircraft flow into and out of the target area must be accounted for. More importantly, an understanding of who creates IPs and gets them inserted into the ATO has been lost. Before ground combat forces take the field, the FSC and his air liaison officer (ALO) or air officer (AO) need to coordinate with the air operations center (AOC) (through the battlefield coordination detachment (BCD) if necessary), to plan the operation. Central to this planning is creation of IP's that will facilitate the ground scheme of maneuver. But in Afghanistan, the CAOC developed all airspace control measures. It was a simple grid system laid out in 30 NM by 30 NM boxes. The corners of these boxes were labeled CP/IPs. Grid points laid out in such a simple system are neither geometrically or geographically suitable for use as IPs. There was an effort to create useable IP's to support OA but this happened well into the operation and the terminal controllers never used them.

WHAT HAPPENED TO THE EFFECTIVE "TALK-ON"?

The general consensus of aviators in Afghanistan was that American ground forces' ability to provide a Talk-On to a target has deteriorated. talk-ons simply took too long. talk-ons are not hard to do. For example, talk-ons given by UN protection forces FAC's in Bosnia were referred to as "Grey Line Tours". Those FAC's could take aircrew over the river and through the woods to a mortar position in a treeline very quickly. They used very simple rules for a good talk-on.

Start by looking at a map. This will help create and expand a mental picture of the target area beyond line-of-sight and will help visualize what the aircrew may see.

Stay away from reference points that are significant only in their vertical development. Aircrew at 10, 15, or 20 thousand feet above the ground cannot pick out the "big ridgeline" if their world is nothing but ridgelines. They cannot pick out the "big castle" in the middle of a city when nothing on the ground looks much like a castle at all from the air.

Look on the chart for the most significant man-made or natural feature within 5 NM of your target. Use that as your starting point. Instead of a "big castle" for example, the unique circular street in the middle the city from which all streets emanate is probably a better anchor point. A unique reference point such as the one cited may not be visible from your "castle", but it does show up on the map and the aircrew can make it out plain as day.

Color or significant changes in color, as in the difference between types of sand, soil or fields, sometimes make excellent reference points. Ensure that they are unique and will stand out.

Use a signal mirror to show the aircrew your position. The signal mirror will highlight your position to the aircrew, which will reduce the potential for fratricide. Your position also makes an excellent anchor point, especially if you are eyes on the target. The light from the mirror is directional as you look through the sight on the mirror and will not give away your position if you are careful.

Find a unit of measure on the ground that you can use to walk the aircrew to the target. Typical units of measure include airfields or distances between two significant man-made features such as bridges.

Use the principle of "big to small" to lead the aircrew to the target.

TERMINAL CONTROLLERS

If tempo, threat, or need for volume of fires is high — use a 9-Line.

Lines 1-3 are not only applicable — they are critical for an effective, efficient mission.

Account for bomb fall line to prevent fratricide and unacceptable collateral damage. Account for bomb fall line to ensure effect on target given terrain, laser target lines and impact angles.

Be as precise as possible when deriving target elevation — especially when constructing JDAM missions.

Use a mark in permissive environments if it is important to get the aircrews' eyes on the target quickly especially if targets are fleeting in nature.

Use TOT's in permissive environments if you want to create a high tempo of fires by sequencing multiple sections of aircraft across the target area.

When executing a Talk-On, first construct the mission on a chart. Try to put yourself in the cockpit and visualize what the pilot is looking at.

When appropriate, mark your own position with a signal mirror during the day or with an IR strobe or pointer at night.

Make sure your laser comm and IR comm are squared away and that you do not confuse the two.

Practice. Call your local USAF, USAF Reserve, Air National Guard, USN or USMC unit to support your training. Create airspace control measures. Develop 9-lines to reflect different types of threat scenarios and missions. Coordinate with your mortars to provide marks. If you do not have a local impact area, get a case of smoke grenades and use the smokes to simulate marks and bomb hits. Work talk-on missions. Debrief and analyze.

Finally, as a terminal controller — control!

Lieutenant Colonel John Jansen is an F/A-18 pilot who recently served as the executive officer for Marine Fighter Attack Squadron 314 and flew combat missions off of the USS John C. Stennis over Afghanistan in support of Operations Enduring Freedom and Anaconda.

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KINGS OF THE ROAD
Heavy and Light Forces in MOUT

CAPTAIN JOHN W. KARAGOSIAN AND CAPTAIN CHRISTOPHER M. COGLIANESE

> "An urbanizing world means combat in cities, whether we like it or not…We will fight in cities, and we need tanks that can fight and survive in the streets."
> — **Lieutenant Colonel Ralph Peters, U.S. Army Retired** in his book, *Fighting for the Future. Will America Triumph?*

It is early in the morning; and in the dim twilight 1st Platoon is on the move. Advancing warily through the enemy-held city, the lead squad clears an abandoned building and peers across the empty street. The enemy is out there, somewhere, but remains hidden. After setting up a hasty base of fire, 2nd Squad is ordered to assault across to the houses beyond. They are met with intense enemy fire. Soldiers lie motionless or crawl backward toward any cover they can find.

In the enemy strongpoint, the enemy commander awaits the Americans next move. At the end of the street, the high-pitched whine of a turbine announces the approach of American armor. The gun barrel of an M1A1 protrudes from behind a building, as the defenders scramble for smoke grenades, satchel charges and rocket launchers, and prepare to make their stand.

With the increasing expansion of cities and urban sprawl throughout the world, fighting in urban areas and conducting military operations in urban terrain (MOUT) operations are an increasingly likely part of any future contingency mission. The presence of civilians on the battlefield restricts the use of artillery and aerial-delivered weapons, and the complexity of the three-dimensional terrain makes urban terrain among the most suitable for a defender facing U.S. forces.

Armored vehicles are some of the most lethal weapons available to a friendly commander. They are the most effective means to provide direct pinpoint fires at close range. The ability to integrate heavy and light forces is an important skill, vital in order to accomplish the mission. At the Joint Readiness Training Center (JRTC), heavy company teams are regularly integrated into the brigade fight at the Shughart-Gordon MOUT site. This article is a synopsis of some of the lessons learned while observing several of these heavy-light task forces on the MOUT battlefield.

Unsupported armor is vulnerable during the close fight in cities and towns. Light infantry, while better suited for combat in urban areas, is vulnerable crossing open areas and building the combat power required to clear and secure enemy-held buildings. Historically, the most successful units in MOUT are those that utilize combined arms, with infantry platoon or company-sized formations centered on armor sections and platoons. Armor and infantry operating together mitigate each other's weaknesses and complement each other's strengths, a good example of synergy.

The role of armor in urban warfare can be significant. According to a study conducted by the U.S Marine Corps, armor participated in 21 of the 22 battles studied. In three-fourths of these battles, organic tank support was a central element when special assault teams were employed. Overall, special assault units supported by tanks were more successful than any other task organization.

Infantry advances from cover to cover. For the Soldier trying to fight and survive, cover and concealment are either excellent (inside a building) or nonexistent (in the open street). Infantrymen spend the majority of the battle inside buildings, and movement between buildings is at full speed, minimizing time in the open. Upon contact, infantry Soldiers must build combat power to suppress target buildings in order to assault. They must prevent defenders from effectively returning fire from the target building or immediately adjacent buildings. When a foothold is secured, infantry Soldiers go room to room, eliminating pockets of resistance. Targets for the infantry are acquired within 100 meters up to 95 percent of the time. Infantry units that maximize cover and concealment and stay dispersed can withstand large amounts of enemy firepower and should lead the way in the attack. In a well-trained platoon, most of the Soldiers would be inside buildings most of the time. The Soldiers seemingly disappear into the landscape, offering no targets for the defender.

For armor, finding cover and concealment is difficult. At the close ranges of MOUT, armor will be in the open where it can be seen and heard by hidden defenders. Tanks can destroy whatever they see, but will rarely be able to sneak up on defending infantry.

One of the chief threats is an infantry anti-tank team that cannot be seen. While the infantry worries about cover and concealment and requires suppressive fires and obscuration to advance, the armor force worries about security to the flanks, rear and top, but has more than sufficient firepower to suppress what it faces. While some techniques utilize armor as "infantry shields," armor does not need to advance onto the objective. It is not important how close the tanks are to the target buildings, but it is important where their fields of fire are. Tank crews advance their fields of fire, not their vehicles, up to the buildings and onto the enemy. If a tank can observe an enemy position, it will almost always be in effective range.

A relevant analogy is that of a car driving down a road at night. The driver uses his headlights to light his way. In areas where he feels less secure, he slows down. We would not drive without headlights relying on the lights of a car behind us. Similarly, without "light" we cannot observe, orient, and decide to act on what lies in our path. During MOUT, the infantry "lights" the way to identify enemy positions. They should normally lead when the enemy situation is vague. Armor provides the freedom of maneuver, killing the enemy where they are found. Pushing our 'car' faster than what is safe and too far ahead of its "light" will not get us where we need to go. When we see the enemy, like a hairpin curve in a road, it will too often be too late to react to the enemy on our own terms, therefore surrendering the initiative. At JRTC, it is common to see aggressive units trying to lead the way with armor in towns. While leading with armor may gain short-term success, the armor is usually heavily attrited in the process. Many times they become a combat liability as the brigade loses momentum, tanks, and lives. (See Figure 1.)

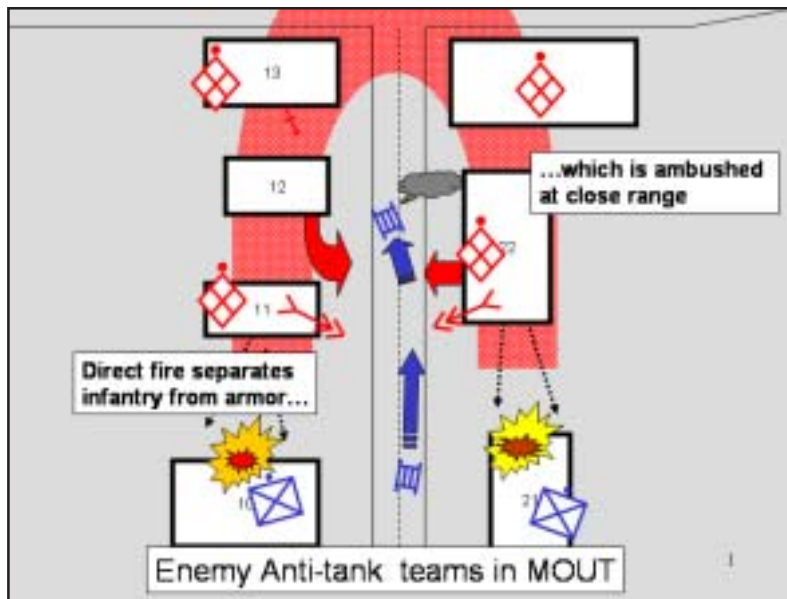When infantry and armor move together, tactics change. Infantry squads are less dependent on fire and movement to advance. Tanks generate the suppressive fire, while infantry provides security and observes to the front, flanks, and rear to protect the less-armored areas of the tanks from enemy anti-tank teams. It is security and movement, with tanks providing the fire, that allows the advance to continue.

Light forces move forward through buildings. They make initial contact, identify enemy positions, fix them in place, and go to ground. Tanks stay to the rear while overwatching the move. Security squads protect the tanks from rocket-propelled grenade (RPG) teams in the flank or rear. They should not be next to the tank, behind the tank, or in a nearby doorway looking at the tank. They should occupy the buildings alongside, scanning from the rooms and vantage points that face away from friendly vehicles. Early warning allows the infantry to engage any enemy RPG teams, or allows the armor to retreat, reorient, or engage. At close range, the 30 to 40 sets of eyes a rifle platoon brings to the fight are vital for covering to the flanks and rear. The infantry hunts; tanks kill. Whenever possible, armor should fight from within a moving perimeter that provides for its security.

In underdeveloped regions of the world, the RPG family of weapons is commonplace and used against a variety of targets. In Vietnam, Somalia and Afghanistan (both the Soviet experiences from 1979-1989 and the U.S. and Coalition experiences from 2001-present), RPGs have been used against helicopters. In Mogadishu, they were employed as portable artillery against humvees, trucks and armored cars. Among irregular units, the RPG is an all-purpose weapon against tanks, vehicles, troops and helicopters — anything its five-pound explosive warhead can be used to good effect. They are cheap, easy to use, easy to obtain worldwide, and reliable. One of the most common versions, the RPG-7V, weighs in empty at 18 pounds, and fires a five-pound PG-7V grenade. Unlike the U.S. AT-4, the RPG-7 is a reloadable weapon. A squad carrying two RPG-7s with three reload rounds each is carrying 76 pounds of equipment, 40 pounds of which is represented by the eight warheads. For the same amount of firepower a U.S. squad would have to carry nearly double the weight: 10 AT-4 launchers, each of which weighs 14.8 pounds. The RPG-7 is a lightweight source of considerable firepower. However, these weapons have short range and limited penetration.

The most dramatic example of an anti-armor defense in recent years came from the aborted Russian attack on Grozny, in the Republic of Chechnya, in December 1994. In the first month of the fighting, the Russians lost 225 armored vehicles. The lead brigade lost 100 out of 120 armored personnel carriers and 20 out of 26 tanks.

The following description is taken from *Russian-Manufactured Armored Vehicle Vulnerability in Urban Combat: The Chechnya Experience* by Lieutenant Colonel Lester Grau, U.S. Army Retired. An enemy defender facing an armored force in urban terrain will try to:

■ Organize anti-tank hunter-killer teams, which include a machine gunner and a sniper to protect the anti-tank gunner by suppressing infantry, which is accompanying the armored vehicles.

■ Select anti-armor ambush areas in sections of the city where buildings restrict

Figure 1

and canalize the movement of armored vehicles.

■ Lay out the ambush in order to seal vehicles in the kill zone.

■ Use multiple hunter-killer teams to engage armored vehicles from basements, ground level, and from second- or third-floor positions. Problems with the RPG-7 and RPG-18 anti-tank weapons are the back blast, signature and time lapse between shots. The Chechens solved the time-lapse problem by engaging each target simultaneously with five or six anti-tank weapons.

■ Engage armored targets from the top, rear and sides. Shots against frontal armor protected by reactive armor only serve to expose the gunner.

■ Engage accompanying air-defense guns first.

Following the battle, the Russians evacuated the wrecked vehicles to the Kubinka tank range, where they assessed the strengths and weaknesses of the vehicles. Several points can be made from the data they compiled:

❍ The Russian tanks had sufficient armor to survive hand-held weapons from the front, at ground level. The Chechen fighters mitigated this advantage by maneuvering to the flank, rear, or above the Russian tanks to knock them out

❍ Lightly armored vehicles, such as the BMP-2 were penetrated at all angles. Although engagement ranges are typically shorter in MOUT, the majority of small arms contacts come from within 100 meters. Vehicles that cannot survive hollow charge impacts are unsuitable for fighting in MOUT unless protected by reactive armor. Survivability is dependent on armor protection, not mobility. In the foreseeable future, this role is best suited for main battle tanks or similarly survivable vehicles.

❍ Tank survivability in MOUT is largely dependent on forcing the enemy infantry to engage friendly armor from shooter-target aspects where armor can withstand weapons impacts. Tanks

seek to position themselves where enemy fire is against their frontal arc, at ground level. 98 percent of the fatal hits against Russian tanks occurred in places unprotected by reactive armor. The Russians were incapable of preventing the Chechens from maneuvering to the flanks and rear, where such attacks were possible.

At the Joint Readiness Training Center, one of the greatest challenges facing the attacker is coordination between infantry and armor units. With the exception of Camp Casey, Korea, light infantry and armor units are not stationed on the same post and do not fall under the same division chain of command. As a result, brigade combat teams/task forces consist of units who meet for the first time in the initial planning phases, a mere three to six months prior to the rotation. They usually have few established SOPs. Worse, they will have no opportunity to really work on anything until the rotation. Frequently, tanks and infantry may be idling nearby while one or the other is engaged or destroyed. The tendency is toward centralization, with the heavy team fighting as a separate formation and infantry battalions fighting without armor support. This is an especially inefficient technique for the urban fight.

In the MOUT fight, the tank is the most survivable platform capable of providing destructive fires with the necessary precision. Artillery provides unacceptable collateral damage, and, in practice, fires are likely to be heavily restricted. Army aviation is effective, but is extremely vulnerable to short-range fires, may have difficulty discriminating friend from foe, and has trouble engaging bottom floors against high-rise or dense concentrations of buildings. As a result, a lone pair of friendly tanks, adequately secured by dismounted infantry, can dominate the local area. Decentralization is key. To do so we have to integrate and synchronize tanks and infantry at the lowest possible level.

Soldiers from the 1st Armored Division's 1st Battalion, 35th Armor Regiment patrol through Baghdad, Iraq, in an M1A1 Abrams tank.

COMMUNICATIONS

The better we communicate, the better our heavy and light forces fight together. One technique is a 'cheat card.' On one side of such a card should be a small map, with numbered buildings and code names for specific objectives, and tentative support by fire positions, targets, and target reference points (TRPs). On the reverse side should be a simple matrix, linking objective buildings with the assigned rifle platoon or company, their call sign, and radio frequency. Lastly, tanks and infantry should be marked in an easily seen way so heavy and light units know who is who.

Tanks should have frequencies, markings, and SBFs designated. Buildings should be marked in a way that helps tank-infantry cooperation. Some unit SOPS specify that each exterior window and room will be marked when cleared. While an excellent idea, in practice battlefield friction takes hold, and this SOP is not executed to standard very often. Marking the entry point, and every floor in multistory buildings is a realistic goal, and more likely to actually happen under stress and the fog of war. Each rifle company

should have a different color, so friendly tanks can tell by the color which company has secured which building and what frequencies can be used to make contact and aid in target acquisition.

Similarly, friendly tanks should be marked so a platoon leader can see a tank and identify who to talk to. In the dark, painted on bumper numbers are insufficient. Chemlights and range flags are good techniques. Each platoon should have a specific color; each tank, a different number of chemlights or flags.

TANK-INFANTRY COOPERATION

In MOUT, unit integrity and cohesion can break down very quickly. Infantry platoons are wiped out; tanks are destroyed; objectives change. Units fight together that do not rehearse together. It is vital that communications be streamlined. If the chain of command make it easy for subordinate units to talk to each other, in the chaos of MOUT they will be more likely to coordinate and synchronize their efforts.

There are several common techniques that are counterproductive on the MOUT battlefield.

One of these "techniques" is the myth of the tank phone. M1-series tanks come without one, and their lack of a phone is seen by some as a liability. While a phone may be of some use in a rural field environment, in a town it is less so. In MOUT, a tank is normally found in one place — in the middle of a street. Smart infantrymen are not out in the open except when absolutely necessary. In the short ranges of MOUT, hiding behind a tank is easier said than done. Flanking fire and overhead fire make the cover of an engine deck smaller than you would think. RPG-7s, artillery, grenades and mortars cause fragmentation that can make the back of a tank a dangerous place to hide. Furthermore, a lone Soldier hiding behind a tank looks exactly like what he is — a leader directing the tank's fire by talking on the phone. The defenders are extremely interested in such people, and will give their undivided attention in an attempt to cut off the firing commands you are trying to provide.

Similarly, the use of tanks as a shield against enemy direct fire is another technique that looks better on paper than in reality. It seems to be a product of units that train mainly against defenders with limited AT capability. First, it requires soldiers to bunch up outside of a building, which is usually a bad idea. Secondly, it requires the tank to advance up against the enemy building, and is more likely to expose its flank or top armor to an enemy AT team. The closer the tank gets to the building, the more likely that the tank will not provide the necessary cover, as the enemy can fire from above or from the flank. Conversely, the closer to the enemy buildings the less area that can be covered by the elevation and traverse of the tank cannon and coaxial machine gun. Lastly, it places the tank in front of the infantry, where the infantry is unable to provide security against enemy dismount teams. In short, the closer to the enemy, the less effective the technique. Now, at long range, or in certain urban areas where the buildings are predominantly single story, "tank shielding" has some effectiveness, and while it may work once or twice, in the long run it results in tank losses to enemy RPGs and satchel charges, and forces the infantry to fight alone when the tanks are left behind.
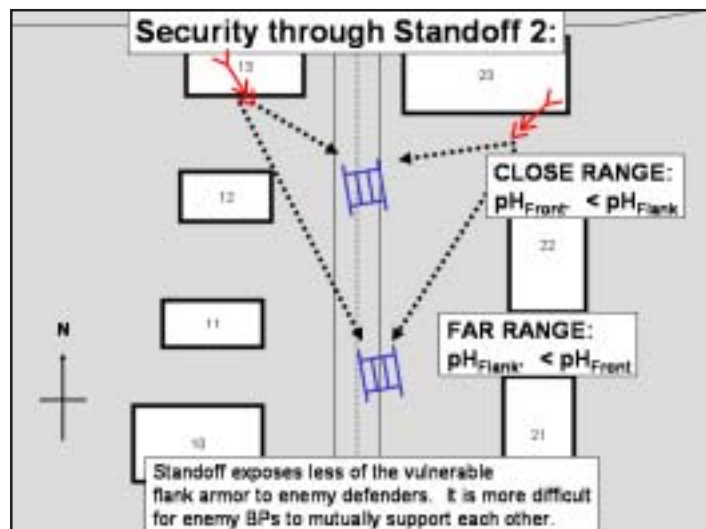

Figure 3

Casualties will be greater than if the tanks were able to fight through the depth of the objective. When in doubt, suppress the enemy from the rear rather than risk the tanks to ambush. Keeping the tanks in one place will allow them to maintain momentum throughout the attack. If you lose them all early in the fight, you will be forced to continue the attack without them, and ultimately lose most of your infantry later when they attack unsupported. (See Figure 3.)

One of the most important details in the tank-infantry cooperation is how infantry, when identifying enemy strong points, 'pass off' target data to tanks. In World War II, when M4 Sherman tanks were equipped with phones, rifle platoons were equipped with a single SCR-536 "handie-talkie", and company commanders had a single SCR-300 man pack to talk to battalion. Phones were vital because they were the only means of communication. Today, rifle platoons have a plethora of lighter weight SINCGARS radios and short-range radios for team leaders and squad leaders. It is vital that comms gear be compatible and communications checks among tank-infantry teams are part of unit precombat inspections (PCIs).

Target designation is an area where there is much room for improvement. Infantrymen fight while wearing PVS-7 and PVS-14 passive night vision goggles, which amplify available light to present a visible image. The most common way for infantrymen to designate targets to each other is to use the PEQ-2 or PAQ-4 laser. These lightweight devices are mounted on small arms such as M4s, M249s, and M240s, and present a laser beam visible to anyone equipped with passive NVGs. Tank gunners, on the other hand, use thermal sights, which detect heat emitted from the target, but cannot observe lasers. Tank commanders, whenever possible, should use NVGs to identify targets identified by lead infantry elements. It is difficult to do so while buttoned up; as tank commanders are a precious commodity, it may be necessary to fight from a commander defilade position with open protected hatch and keep the tanks as far to the rear while maintaining eyes on the target. Another option is to use "tracers on target" which will normally be picked up by thermals.

The most important technological advances for armor in MOUT

will be those that facilitate the ability of tanks to receive target data from nearby infantry. One possible initiative would be a passive low-light imager that could be mounted to the tank commander's station. A wide-angle capability is more important than magnification, as the primary purpose of such a device would be to allow tank crews to see targets identified using tactics, techniques and procedures (TTPs) currently in place among the infantry and aviation communities.

Coordination prior to an assault should include determining formations among infantry and armor, radio nets, fills, and frequencies, and how targets will be marked, by what leaders and with what means. We also should speak a common language in describing where the target is on the MOUT battlefield. One of the common TTPs seen at JRTC is for each building to receive a unique number, printed on small-scale maps. Walls are designated in a counterclockwise manner: Alpha is the north side, Bravo is west, Charlie is south, and Delta east of whatever building we are looking at. Openings such as windows and doors are marked from left to right and bottom to top. "Charlie 23" would be the second window from the left, third floor, on the south side of a building. Simple fire commands, to include how a target is marked, minimize time and confusion. For example:

1) *Alert* — (Tank) Red 13, this is (Infantry) Alpha 16, over.

2) *Direction* — Building 21, window Charlie 32, over. (White building at 11 o'clock, south side, second floor, third window from left)

3) *Description* — Enemy machine gun

4) *Range* —100 meters.

5) *Method of fire* — Target marked with laser (lases)

6) *Command to fire* — Fire when ready.

Based on operations at the JRTC, there are several special situations where specific heavy-light TTPs have proved effective:

The first of these is the breaching of the enemy obstacles on the outskirts of the enemy town, and the assault to secure a foothold. During breaching operations, it is common to see a rifle company commander decide to fight with minimum attachments, and attempt a stealth breach in order to approach the objective unseen. A common task organization is with a rifle platoon, reinforced with an engineer squad, as a breach element; a follow-on assault platoon; and a third platoon (possibly reinforced with extra M240s) as an SBF element.

There are several trends that apply here. As the attacker approaches small arms range, large numbers of infantry are required to suppress the enemy on the outskirts of town. As the defenders are hidden inside and the attackers are not, a 3: 1 attacker to defender ratio is usually required to achieve fire superiority. By massing rifle squads and machine crews to mass fire effects, a lucrative target is presented for enemy mortar crews, who routinely lay their 82mm mortars on the last covered and concealed positions outside of towns. The result is a mass-casualty situation as the enemy fires their final protective fires on this large, stationary target.

This situation is an ideal opportunity for armor. Long-range fields of fire that reach the outlying buildings offer armor the opportunity to apply overwhelming fires without the threat of an RPG ambush. Armor can do what infantry cannot: withstand the effects of enemy mortars while maintaining fire superiority, allowing the breach elements to maneuver and secure a foothold in the town. Infantry scout ahead to the first position that offers suitable fields of fire, which are then occupied by armor. Tanks consolidate once the foothold is secured and can then be task organized with the assault platoons.

A second situation that arises concerns occupation of support by fire positions in the town. Light-skinned vehicles that cannot stand toe-to-toe with enemy AT teams practice a form of berm-drill to survive. Rather than drive up or down from a dug-in firing position, they position themselves in hide positions behind buildings and drive around cover. This technique is similar to an infantryman 'pieing' around a corner. Vehicles should advance only far enough to engage their target, minimize how much of the vehicle is exposed, minimize time spent in firing position, and present the thicker frontal armor toward the enemy. Dismounted infantry forward of the fighting position should give detailed firing commands so the crews will spend minimum time exposed before engaging. If the enemy AT threat is heavy, tank commanders and gunners should dismount to see the enemy positions from hidden vantage points.

Even main battle tanks can benefit from this technique. In small villages and towns a tank that suffers a mobility kill can still overwatch much of the objective. In larger towns and cities an immobilized tank will be unable to support the attack; defenders can then withdraw and defeat attacking infantry from support positions several blocks to the rear. A mobility kill will take a tank out of the fight as surely as a catastrophic hit.

For the leader developing a class on tank-infantry cooperation, available resources are few and far between. One of the best portrayals of armor in MOUT, interestingly enough, is the film *Saving Private Ryan*. In the closing sequence, a German infantry company, reinforced with several heavy tanks, is delayed and attrited by a heavily outnumbered and ad-hoc U.S. force of less than one platoon. Because of this well-executed delay, exacerbated by the Germans violating many of the principles of tank-infantry cooperation in MOUT, the Germans suffer ultimate defeat by a joint and combined arms task force. As a result, the film depicts good examples of what not to do in the attack.

Combat in urban terrain will be likely in any possible deployment. Light infantry and armor, fighting together, is a combination that has historically proved very effective. We must effectively utilize these organizationally and culturally different close-combat formations and win require communication, synchronization, and effective SOPs that maximize the capabilities and minimize the limitations of both types of units. This is "graduate-level" combined arms warfare and it does not happen easily. But the rewards are undeniable. The beginning steps to achieving this extraordinary capability start at home station with effective training.

At the time this article was written, **Captain John W. Karagosian** was an observer/controller at the Joint Readiness Training Center at Fort Polk, Louisiana. is currently serving as a platoon leader with 2nd Battalion, 142nd Infantry (Mechanized) in Texas.

Captain Christopher M. Coglianese is a 2003 Olmstead Scholar who is completing graduate studies at the University of Bombay, Bombay, India.

A Heavy Weapons Platoon's

15 Minutes to Success

MAJOR PERRY BEISSEL
SERGEANT FIRST CLASS MARCO GARCIA

"Terminator-6, this is Warlord-6, FRAGO follows ... move from checkpoint 2 to checkpoint 4 and secure LZ Condor for 2nd Battalion's air assault. Be there by 2300. Make sure you're there before the birds are!"

With these words, an anti-tank platoon leader's mind reels He turns on his red lens flashlight, unfolds his map, consults his PLGR (precise lightweight GPS receiver), and peruses his graphics. A few minutes later, the platoon leader awakens his driver. The platoon leader net calls his platoon to get ready to move, gives the destination grid, briefs the reason they are moving, and then waits for the platoon vehicles to move out.

Invariably, one of the following events follows: a known minefield strike halts all movement; elements break contact; direct fire contact with "unknown elements" in the darkness impels the platoon to break contact; or impacting mortar rounds disrupt the platoon's mission.

In the end, the platoon may or may not reach its assigned objective and accomplish its task.

At the Joint Readiness Training Center (JRTC), the above scenario must be the most flexible in the battalion. The platoons' mobility and lethality continually boost the task force's agility and flexibility. During sustained operations, hasty missions are the order of the day. To help their platoons in ensuring success, Delta Company commanders should develop a "15-minute" checklist for the platoons. This checklist should contain mission-critical items for each member of the platoon to execute prior to starting the mission. Sample events are shown in Table 1. These actions are not surprising. They are in everyone's pre-combat inspection (PCI) checklist. But units must carry compressed checklists and be able to use them effectively in 15 minutes or less. All too often, platoons move out from point A to point B without any real preparations because of higher headquarters' emphasis on "moving out now!" Subsequently, there is no individual situational awareness, weapon system readiness, or contingencies for making contact.

All drivers must know the route. All Soldiers need to know a frequency and call-sign they can reach if they need indirect fire support. Every vehicle needs to know updated minefield locations and the locations of friendly forces they may be passing through. Leaders need to know a scheme of maneuver (movement formation, transitioning to bounding overwatch, preplanned indirect fire targets, etc.).

Commanders need to drill their platoons with sample scenarios so that they will be able to respond effectively. The difference between "speed" and "haste" has to be emphasized. When platoon members become proficient at conducting key pre-mission tasks, their success, confidence, and ability to execute aggressively will improve significantly.

At the time this article was written, **Major Perry Beissel** and **Sergeant First Class Marco Garcia** were the anti-tank/heavy weapons company senior observer controllers for Task Force 2 with JRTC Operations Group, Fort Polk, Louisiana.

Table 1 - Sample checklist

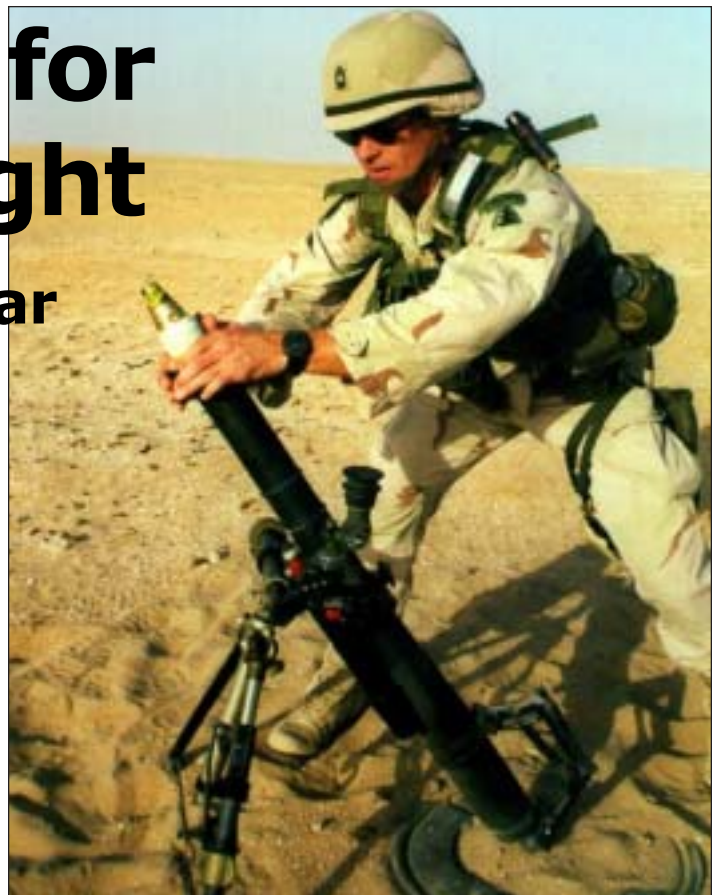| PL/PSS		TC:	
Develop plan (10 minutes)		PCI commo, ensure freqs loaded (5 min)	
- movement techniques		Review map, prepare to copy plan (3 min)	
- weapon mixture		Prep NVGs (2 min)	
- fire support, C2 frequencies		PCI commo, ensure freqs loaded (5 min)	
- minefield locations			
- enemy activity in vicinity			
GUNNER:		DRIVER:	
Prep weapon system (7 min)		Check oil/ fuel levels (3 min)	
PCI ammo (3 min)		Tighten load plan (5 min)	
		Prep NVGs (2 min)	
ALL: Disseminate plan (WARNO + :11 thru WARNO +15) via FM or face to face.			

Indirect Fire for the Close Fight

The 60mm Mortar

CAPTAIN JOSEPH C. GERACI, III

U.S. Army photo

The 60mm mortar can be a valuable asset to a light infantry platoon by providing highly responsive and short minimum range indirect fires.

Army-wide, light infantry platoons are reluctant to incorporate indirect fires, specifically from the 60mm mortar, when the enemy establishes contact in the close fight. Some platoon leaders, platoon sergeants, squad leaders, team leaders, and also forward observers (FOs) are reluctant to use the mortars in the close fight because they are not familiar with the weapon system, nor do they trust it. This situation should cause great concern. The mortars exist to support infantry platoons, enabling them to conserve their combat power during chance contact and to maximize it during the decisive fight. The 60mm mortar can be a valuable asset to a light infantry platoon by providing highly responsive and short minimum range indirect fires that either kill the enemy or suppress his fire, thus enabling the assaulting rifleman to close with and kill him. We cannot blame the platoon leadership for being wary of using mortars. I wouldn't use a weapon system that I wasn't familiar with or did not trust. It is vital that we develop a solution that will help platoon and company leaders establish trust in a weapon system that is a "critical and irreplaceable element of a rifle company's maneuver."

After action reviews from the Joint Readiness Training Center (JRTC) from the 4th Quarter, Fiscal Year 94 to the 1st Quarter, FY 00, have shown that there is a recurring trend in infantry battalions — team leaders, squad leaders, and platoon leaders are not aware of or just not comfortable with calling for fire. The result is that units have failed to integrate indirect fires into chance contacts with the enemy, thus allowing the enemy to break contact on their own terms. A former senior brigade fire support observer/controller at JRTC stated that the failure to adjust indirect fires onto a fast-moving enemy when contact is made contributes to the 7:1 loss ratio between the blue force (BLUFOR) and the opposing force (OPFOR) at JRTC. The 60mm mortar is the only indirect weapon system organic to the light infantry company. Regardless of the conditions or constraints applied by higher levels, the 60mm mortar is all-weather, always present, and approved at company level. The situation in Afghanistan reinforces the need for infantry platoons to incorporate mortars into the close fight and fix the problem. Because of conditions such as extreme altitude and inclement weather, coupled with mission specific constraints, there were times when the 60mm mortar was the only indirect fire asset available to companies conducting dismounted patrols during combat operations. The fact is that without the employment of mortars during the close fight, platoons can neither conserve nor maximize their combat power.

A proposed solution to the dilemma consists of three elements:

∗ Establishing relationships between the mortars and the FO teams;

∗ Educating the platoon leadership on the capabilities of the mortars; and

∗ Incorporating mortars into all maneuver training.

The first relationship that we need to address is between the FO teams and the mortars. The platoon leader should feel comfortable with his FO and trust his judgment and actions. This is crucial because the FO is the go-between of the platoon and the 60mm mortar section. The FO, most of the time, is responsible for calling for indirect fire in the close fight. Therefore, the FO and the mortars need to have an established habitual relationship. You can develop this relationship only through continuous and focused training. I will discuss a sample training plan that could be effective in establishing this habitual relationship.

Training begins with call for fire on short-range training round (SRTR) ranges established in open fields and training set, fire observation (TSFO) training. An effective technique is to have the mortars set up outside the TSFO building and process the fire missions from the FO teams inside the building. The more familiar the FO is with the person on the other end of the radio, the more confident he will be in his own abilities. The next type of training includes static call for fire ranges. A culmination training event between the FO teams and the mortars is a "walk and shoot" range. During this training, the mortars and FO team maneuver in a

simulated platoon or company formation when the FO team makes contact, which forces the mortars to conduct a hip-shoot to fire a mission. This contact occurs many times as the mortars and FOs move down a 500-1,000 meter lane. Through a similar training plan, the mortars and FOs can develop and perfect effective indirect fire standing operating procedures (SOPs) for chance contact.

The next element of the solution consists of the relationship between the platoon leadership and the mortars. In developing this relationship, the platoon leadership undergoes a series of instructions on the capabilities and employment of the mortars. Such instruction should consist of, for example: maximum ranges of the mortars, basic loads for the mortars, rates of fire, the different employment options for the 60mm mortar (conventional, direct alignment, direct lay, and hand held), call for fire, minimum safe distance (MSD), risk estimate distances (REDs), and echelonment of fires. It is important for leaders to have this knowledge, especially understanding the difference between MSD and RED and how both affect the echelonment of fires.

MSD, used for peacetime training missions, is the prescribed minimum safe distance in meters from the intended center of impact at which a specific degree of risk and vulnerability will not be exceeded with a 99 percent assurance.

The intent behind the echelonment of fires is to employ all available indirect fire assets as close as possible to friendly forces, allowing them increased freedom of maneuver within proximity to the enemy. The end state is friendly forces essentially assaulting behind a "wall of steel" until they are as close to the enemy as possible. With the echelonment of fires, you initiate with your most casualty producing munition available to you, and when your lead element approaches the RED distance from the target (350m in the scenario in the diagram) you lift or shift the fires from that system and transition to the next most lethal indirect asset that has a lower RED. This process continues until you get to the 60mm mortar.

The 60mm mortar is the last asset that you incorporate before the infantry assaults an objective. A few factors that affect the echelonment of fires are the movement rates of the maneuver elements, ammunition available, desired effects of the indirect assets, training level of your indirect assets and FO teams, and the amount of risk the commander is willing to take when employing the REDs. RED is only a guideline to help the commander as he tries to affect the enemy on the objective while allowing his infantry to move as close as possible to the objective.

In conjunction with providing the platoon leadership with the above information is applying the knowledge during static call-for-fire ranges in a stress-free environment. This will enable the leaders to become familiar with the weapon system and to feel comfortable calling for fire. Depending on ammunition and training time, the leaders should also conduct a "walk and shoot" exercise.

The last element of the solution is incorporation of the 60mm mortars into all maneuver training. To continue to develop the relationship between the platoons and the mortars, it is important that mortarmen be trained as infantrymen first. During squad lanes, mortars should not be OPFOR but considered an additional squad going through the training. This will increase the combat power of the infantry company because during missions the mortars will have the skills to provide their own security, and it also increases the platoons' confidence in the ability of the mortarmen as fighters.

Leaders should include the 60mm indirect fire into all platoon live fires and the live fires should incorporate chance contact where the plan allows for the utilization of mortars by the FO and also the lead team leader or squad leader. The only way for the FO and platoon leadership to feel truly comfortable with the mortar system is controlling the indirect fires during live-fire conditions with maneuver elements. Range Control dependent, the live-fire plan should also incorporate mortar firing onto the objective and allow the lead elements to maneuver as close to the objective as possible with the rounds still firing. Another technique not to be overlooked is using the mortars in hand-held or direct-lay mode from the support-by-fire (SBF) position, where the mortars have eyes on the objective. In either of these modes, the mortars are essentially another direct fire asset. They can control their own fires and shift in conjunction with the SBF.

Editor's Note: *The author submitted a more comprehensive article including example battle drills and illustrations. Due to operations security (OPSEC) concerns, we did not include these in the print version. However, the original version will be available through the Army Knowledge Online Web site. The article can be found under the Infantry Magazine section.*

Staff Sergeant Kyle Davis

Specialist John Dugar and Private Mark Escobar of the 10th Mountain Division check the positioning of the mortar tube during Operation Mountain Viper in Afghanistan.

Captain Joseph C. Geraci, III, served as a mortar platoon leader and Headquarters Company executive officer for the 2nd Battalion, 75th Ranger Regiment. While with the 75th, he deployed to Afghanistan in support of Operation Enduring Freedom.

TACTICAL VIGNETTE

Raid on Kandahar Communications Center

Editor's Note: *This vignette was adapted from The Other Side of the Mountain: Mujahideen Tactics in the Soviet-Afghan War, which was written by Ali Ahmad Jalali and Lester Grau. The vignette was submitted by Ghulam Farouq, who was an urban guerilla in Kandahar. He belonged to the Islamic Movement of Ayatollah Shaikh Asef Muhseni, a minority Shia Muslim faction. This action is significant because it is in the pattern followed by Afghan and Iraqi insurgents even today. This vignette talks to the weaknesses of planning for this raid: lack of a rehearsal, poor reconnaissance, and the result of being taken under fire at a critical juncture all contributed to the mission's failure. Examination of raids and ambushes against Coalition forces in Iraq and in Afghanistan today likewise reveal weaknesses of our adversary. He is vulnerable and can be defeated in detail if we take the time to learn how he operates.*

VIGNETTE

I continued to use my high school student identification to get around Kandahar. I would deliver messages for the Mujahideen and try to contact DRA soldiers who might give me valuable information or agree to cooperate with the resistance. In August 1984, I again found a DRA soldier who wanted to cooperate. His name was Hanif and he worked in the Kandahar Telephone Exchange Center. He and his friend in the DRA agreed to help us, so I took Hanif to our base south of the city in Chardewal to talk to my commander, Ali Yawar. Ali Yawar said that the exchange was too strong to take in a raid, but Hanif said that he and his friends would help.

Several nights later, Ali Yawar assembled 120 Mujahideen for the raid. We used the northern approach from Kalacha-e Mirza Mohammad Khan to Chawnay suburb. From Chawnay, we went to Topkhana – the Shia section of the city. Then we moved down Bala Street. Ali Yawar posted about 100 Mujahideen as security along our route. Finally, we arrived at a point directly across from the outpost which guarded the telephone exchange. We gave our flashlight signal and Hanif answered it. Ali Yawar posted additional security and then we crossed the street one at a time. Twelve of us went inside the walled compound. It had a guard

house and other buildings. Hanif took us all into the guard house. We sat there while roving DRA security patrol passed outside. As usual, the security patrol came from the east and passed by the compound. They did not notice anything unusual. Hanif told us to remain quiet since another roving patrol was due from the west. We waited until they passed. There were three other sentries inside the compound that we had to neutralize. Hanif had held a tea break during the three previous nights. After the two roving patrols passed, the sentries would gather individually in the guard house to talk and drink Hanif's tea and eat his cakes. As the first sentry entered the guard house, we overpowered him, bound and gagged him and took him to the outside security group who took him away. In this fashion, we got rid of the three sentries.

We spent some 35 minutes in the guard room dodging the patrols and getting rid of the sentries. We exited the guard room carrying our jerry cans of gasoline. We planned to burn down the telephone exchange and surrounding compound. As we entered the main telephone exchange building, the guard who was sleeping inside woke up. As we were climbing the stairs to the second floor, he took his Kalishnikov and began shooting. He killed Mohammad Nabi from Chardewahl and Sherandam. He wounded Ghulam Reza. Things became very chaotic at that point. We were firing in all directions and other people were firing back. No one knew what was going on. We grabbed nine Kalashnikovs and our dead and wounded and left. In our haste, we did not set anything on fire. We retraced our steps and reached Kalacha-e Mirza Mohammad Khan about 0230 in the morning. The next day, we learned that we killed four DRA soldiers plus some of their relatives who were staying there with them.

DISCUSSION

While we can obviously not depend upon chance and our

adversary's deficiencies to assure of us of victory, we do need to recognize that he is neither invincible nor incapable of making mistakes. Despite his advantages of language, appearance, familiarity with the environment, and his status as an "insider" as it were, the very factors that normally work in favor of the insurgent can cause him to become complacent and in fact lead to his downfall.

The failure of this raid on an important target can be traced at least in part to complacency which resulted in the failure to formulate a detailed, rehearsed plan. Much of the planning was left to a collaborator, many of whom are unreliable at best, and this led to a loss of control once the operation was underway. The 120-man Mujahideen raiding party should have been able to sweep over the objective, but did not. No provision had been made for a covering force to either reinforce the attackers on order, or to create a diversion to permit the main element to either execute the mission or break contact.

The raiders' ignorance of the location of all Democratic Republic of Afghanistan (DRA) soldiers in the objective prior to and during the assault proved fatal when one sleeping guard awoke and took the raiders under fire. By not isolating the objective and rehearsing the attacking force on specific missions on the objective, the raiders left too much to chance and lost valuable time.

While the Mujahideen did not achieve anything beyond limited objectives and the evacuation of their dead and wounded, the DRA forces did not cover themselves in glory either. Lax security permitted the attackers to infiltrate virtually undetected and come within minutes of burning down a key communications facility. Constant vigilance, access control, and trained reaction forces could have stopped the attack at the outset, but did not.

As our own operations further reduce the numbers of personnel and the amounts of materiel available to insurgents, they will forsake conventional operations to an ever-greater degree, turning instead to the use of limited raids, ambushes, and improvised explosive devices. By employing solid, proven security measures and becoming ourselves more innovative in the way we anticipate and preempt attacks, we can finally remove this means of inflicting losses in Soldiers and materiel on coalition forces.

Winning the MOUT Fight

Isolation and Setting the Conditions

MAJOR BRETT JENKINSON

The purpose of this article is to provide tactical commanders and leaders with tactics, techniques and procedures (TTPs) to win the military operations on urban terrain (MOUT) fight. In accordance with Army Field Manual (FM) 90-10-1 (with Change 1), *The Infantryman's Guide to Combat in Built-Up Areas*, the third phase of the MOUT deliberate attack is "isolation." Perhaps the least understood phase of the MOUT attack, isolation of the objective area is the key to success in the MOUT fight.

FM 90-10-1 gives the isolation phase cursory attention by defining it as "seizing terrain that dominates the area so that the enemy cannot supply or reinforce its defenders." This description connotes the "outer ring" of the old cordon and search task. However, for the assaulting element, isolation requires specific TTP well inside the "outer ring" to ensure the unit can reach its foothold with minimal casualties.

BACKGROUND

The Combat Maneuver Training Center (CMTC) at Hohenfels, Germany, hosts the Army's only MOUT Leader's Course, a unit-tailored course that enables leadership at the battalion level and below to master MOUT skills. It offers leaders in-depth classroom instruction and three to five days of hands-on practice to help them understand the MOUT fight. It spans tactical applications of MOUT from fire and maneuver in a built-up area through the planning, coordination, integration, synchronization, and execution of MOUT.

The MOUT Leader's Course teaches that commanders must remain focused on the basics of fire and maneuver outside buildings, use of smoke, and how to properly isolate the objective area prior to the first clearing team entering a building. These skills must be mastered first before immersing the unit in the particulars of close quarters combat (CQC); unit leaders must know how to set the conditions for success.

The conduct of the MOUT Leader's Course and other rotational unit MOUT attacks provided the opportunity to observe more than 50 MOUT fights that occurred over the course of two years. From this experience, one phase of the MOUT deliberate attack clearly stands out as the key to the assaulting units' success or failure at the tactical level – isolation. While not the most exciting phase of the MOUT attack, it is the true tactician's TTP for winning the fight.

Most units attending the MOUT Leader's Course expect to spend the majority of their training time rehearsing CQC. Although Change 1 to FM 90-10-1 provides definitive methods for CQC, these techniques are not the "end-all" tactical skill for conventional units to ensure success. CQC, in accordance with Change 1 to FM 90-10-1, is a difficult, technical skill that requires hours of rehearsal and thousands of rounds in a shoot-house to master.

According to Ranger Training Circular 350-1-2, the average Ranger squad rifleman fires 14,500 rounds per year, 75 percent of which are fired at 25 meters or less. No conventional Army unit has either the resources or the time to conduct such a rigorous marksmanship program. The Rangers are, without

question, the best infantrymen at CQC. However, their program is not feasible for conventional infantry battalions.

To compensate for resourcing challenges, conventional infantry battalion leaders must set the conditions well outside the objective area – starting in the classroom with maps and aerial photos. Leaders at all levels must know how to read the terrain, find the gaps that need covering, and how to get the right Soldiers and their weapon systems into those key positions.

STATISTICAL DATA

CMTC rotational data confirms that greater than 70 percent of all casualties in MOUT deliberate attacks are sustained outside buildings. Most of these casualties could be avoided with proper fire and maneuver and good isolation of the objective area. Unit lessons learned add credence to this claim. During one infantry battalion's recent attendance at the MOUT Leader's Course, the greatest lesson the unit brought out in its after action review (AAR) was the undeniable need for proper isolation of the objective area.

Their composite company of leaders, fire team leader up to battalion commander, conducted three daylight attacks on the same terrain and against the same enemy set. The first two attacks were conducted with the same maneuver plans, resulting in 21 percent and 17.5 percent friendly casualty rates, respectively. During the third, the unit changed only one facet: how it isolated the objective area.

During the third attack, the unit isolated the objective area with M249 SAWs and the unit sustained only 5 percent casualties. The secret to the unit's success was not flawless room clearing, quick movement through the "fatal funnel" or lethal reflexive fires. The catalyst to success lay in how the unit achieved isolation from the support by fire (SBF) position.

A dramatically lower casualty rate outside buildings was not the only dividend to proper isolation. Proper isolation later contributes to fewer casualties inside buildings during the systematic clearance phase of the attack. Sound isolation prevents a well-trained and rehearsed enemy squad from replicating an enemy company by fighting numerous, successive defenses during retrograde from building to building.

If not effectively isolated, an enemy squad can easily displace laterally or in-depth on the urban battlefield, causing the assaulting force to perceive a fight with a much larger force. Trading space for time, the same enemy squad can continue

> **If not effectively isolated, an enemy squad can easily displace laterally or in-depth on the urban battlefield, causing the assaulting force to perceive a fight with a much larger force.**

to inflict countless friendly casualties throughout the depth of the urban battlefield, thus miring the assaulting force in the casualty evacuation process.

WAYS TO GAIN ISOLATION

❶ **Use of Task Force Scout / Reconnaissance Platoon** — Typically, scout or reconnaissance platoons provide guides to the objective for the task force, confirm or deny information (or answer PIR from the S2's R&S matrix), and perhaps even suggest the salient building from which to attain a foothold. While this information is certainly helpful, the company commander needs a more detailed analysis. These scouts/recon troopers are not being used to their fullest extent.

Unit commanders need scouts/recon to guide Soldiers with key weapon systems into positions to isolate the close fight, i.e. the foothold building. This may mean that the recon squad leader leads the infiltration with rifle company machine gunners or SAW gunners to position them in the ideal SBF locations.

Further, as described earlier, these positions need to cover the gaps between buildings to prevent the enemy's repositioning from building to building. Squad leaders can then easily assign remaining riflemen to cover exposed doors and windows against unsuspecting enemy shooters. The key lies in placing high volume of fire weapon systems in the gaps between buildings.

The M249 SAW, M240B, or, preferably, the coaxial machine gun of a Bradley fighting vehicle (BFV) or M1 tank is usually the most effective weapon in keeping an enemy inside the place he will eventually die. If the enemy does choose to displace, the SBF position(s) in "the gap" has an easy job. The assault element's systematic clearance then becomes exponentially easier since the subsequent buildings are not as heavily defended or not defended at all, depending on the combat power of the enemy.

Specialist Brian Trapp

❷ **Use of Task Force Snipers** — Snipers typically choose to hide where they can engage enemy in windows or doors of the foothold building(s) and those immediately around the foothold buildings. This line of fire is usually from a perpendicular angle to the direction or axis of advance.

However, the best use for a school-trained sniper is in the counter-sniper role, especially during MOUT. Only the sniper thinks like the sniper. A unit commander may envision an enemy sniper in an upper floor window or church tower. More likely, the enemy is firing from well inside a basement window, or from a position on the periphery of the built-up area, or from an interior room of a building through a small hole in the interior wall, and then through an adjacent room and its window. A trained sniper knows to look for these techniques. The average infantryman does not think this way.

The trained sniper or practiced sharpshooter knows not only to mask his muzzle flash but to also mask the audible report of his weapon. Therefore, to maximize the autonomy of a good sniper in the counter-sniper role, attach snipers or sharpshooters in the battalion to the scout / recon platoon for employment. The additional time in the objective area coupled with moving with a smaller unit will allow the unit's snipers adequate time to stalk and establish a quality hide position.

The scout platoon leader must, in turn, develop the SBFs and sniper hides with respect to the assault element's maneuver plan and their associated surface danger zones (SDZs). The locations of any snipers, scout O/Ps, and tentative SBFs must then be passed directly to the assault element commander upon link-up to avoid fratricide. Again, the scout platoon leader must be well versed in terrain analysis and the maneuver plan of the battalion to be employed effectively.

❸ **Integration of Tanks and BFVs** — The final key to proper isolation is integration of any tanks or BFVs. Armor and mechanized forces are best employed within their capabilities, typically outside RPG range of a built-up area. This means they play a crucial role in what may be considered the "outer ring" of the isolation force.

The outer ring of isolation, indeed, prevents ground reinforcement, resupply, or casualty evacuation outside the built-up area by the enemy. They should dominate key terrain in accordance with the FM 90-10-1 vision of isolation found on page 3-4 in Figure 3-1. To provide local security for these elements,

the driver and loader should dismount with small arms to serve as an LP/OP for their vehicle.

These heavy forces should be prepared to collapse the outer ring on order to conduct close operations, if needed. They may also be used to provide transportation to the foothold building for the leading assault element. Once the assault element has dismounted near a foothold building, the vehicle must immediately move to its position outside RPG range.

The speed of such an assault is usually too rapid for the enemy to reposition an anti-armor weapon system to engage the vehicle before it is gone. Likewise, once the foothold is secure and the immediate RPG threat eliminated, mechanized forces can facilitate casualty evacuation and resupply for the assault element.

Again, rotational statistics show that units have an innate fear of bringing armor or mechanized vehicles into built-up areas. However, when employed in accordance with the above guidance, vehicle losses are very minimal when compared to the Soldier losses when the vehicles are not used. When a built-up area is properly isolated, the RPG threat is contained, and routes to and from the built-up area offer some cover and concealment, there is little concern for vehicle loss.

Units must avoid the temptation to spend too much valuable training time and resources training solely CQC skills in preparation for the MOUT deliberate attack. Even mediocre conduct of CQC skills will generally result in overwhelming domination of the close fight. However, poor isolation before the first fire team steps foot in a village will undoubtedly reward the assaulting unit with a CASEVAC validation exercise.

The keys to success:

◆ Employ the scouts/recon as guides to the SBFs,

◆ Employ snipers in the counter-sniper role,

◆ Integrate heavy forces, and

◆ Employ sound fire and maneuver during the assault. The bulk of the MOUT attack casualties can be avoided. Remember: historically, 70 percent of all casualties in a MOUT deliberate attack are sustained outside buildings. Where should you place your training focus?

At the time this article was written, **Major Brett Jenkinson** was serving as the Combat Manuever Training Center MOUT officer-in-charge in Hohenfels, Germany.
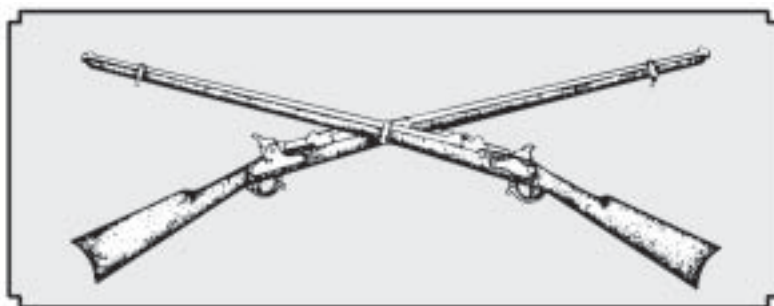
Long Range Desert Group. **W.B. Kennedy Shaw. 1945; reprint, Greenhill Books, 2000. 260 pages. $18.95 (softcover).** Reviewed by Lieutenant Colonel Harold E. Raugh, Jr., U.S. Army, Retired.

British Army Captain W.B. Kennedy Shaw served as Intelligence Officer of the Long Range Desert Group (LRDG) from the time it was organized in Egypt in the summer of 1940 until the concluding phase of the North African campaign in February 1943. During this action-packed period, Kennedy Shaw participated in numerous operations behind enemy lines against Italian forces and later Rommel's Africa Corps, and briefed and debriefed veritably every LRDG patrol.

When Italy declared war on the United Kingdom in June 1940, its forces in North Africa numbered about 250,000 while British troops numbered 36,000. Recognizing the potential of desert travel to counter the Italian manpower superiority and to gain intelligence, Major Ralph Bagnold (a leading and experienced desert explorer) proposed the establishment of a light vehicle reconnaissance unit. Formed in late June 1940, the LRDG was initially composed of British officers and soldiers from New Zealand and Rhodesia. The group, after intensive training, became operational in September 1940.

The first patrols consisted of two officers, about 30 men, 11 trucks, 11 machine guns (although these numbers were later reduced by half), and vast quantities of fuel, ammunition, food, and water. Navigating over frequently uncharted, immense trackless stretches of desert and sand seas, in extremes of temperature (over 120 degrees F. in the shade in summer, and below freezing in the winter), the LRDG patrols specialized in gathering intelligence and reconnoitering enemy positions and new routes. The patrols also occasionally ambushed enemy convoys, interdicted supply lines, and attacked outposts, airfields, and rear area

elements, using their hit-and-run tactics and high mobility to give the Italians (and later the Germans) the impression that the British had more troops than they actually had.

One of the most significant activities of the LRDG was the "road watch" on the Via Balbia. The Via Balbia, paralleling the Mediterranean coast of North Africa, was the only paved road through an area where vehicle traffic was extremely limited and water was scarce. The Germans landed their tanks, and most of their other reinforcements and supplies, at Tripoli, then moved them hundreds of miles along the Via Balbia east to their forward units. At a vantage point near Sirte — some 400 miles behind enemy lines — the LRDG established its road watch site where patrols constantly monitored all enemy vehicular traffic and convoys coming from Tripoli. By monitoring all movements, the LRDG was able to provide early warning of impending enemy attacks by counting vehicles by type and identifying surges and other patterns in resupply and reinforcements, and other indicators of enemy activity. The road watch, according to Kennedy Shaw, was perhaps "the most useful job LRDG ever did."

Kennedy Shaw's gripping memoir provides tremendous insight into the Western Desert campaign and the colorful, courageous, and indefatigable personalities of the elite Long Range Desert Group, described in a contemporary newspaper article as "the bravest, toughest, and brainiest unit of Britain's great desert army." More importantly, the pages of this fascinating book reveal battle-proven lessons in small-unit leadership, tactics, and desert operations.

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Reagan's War: The Epic Story of His Forty-Year Struggle and Final Triumph Over Communism. **Peter Schweizer. New York: Doubleday, 2002. 339 pages.**

$26.00 (hardcover). Reviewed by Glen F. Welch.

Throughout history, the rare individual has appeared on the historical scene and redirected the flow of events. This book is about one of those individuals. As Peter Schweizer describes in considerable detail, Ronald Reagan bucked the international consensus and trends among intellectuals and national leaders – nearly all of whom knew that the Soviet Union was unstoppably on the rise. To their doubts he said, "Yes, we can defeat communism."

Peter Schweizer, a research fellow at the Hoover Institution, is the best-selling author of numerous books such as *The Fall of the Wall: Reassessing the Cause and Consequences of the End of the Cold War* (2001) and *The Soviet Concepts of Peace, Peaceful Coexistence, and Détente* (1988). With Reagan's War, he has again prepared a masterful analysis of the events of the Cold War. His most recent work chronicles the activities of Ronald Reagan – probably the best known cold warrior in the free world. Throughout his book, Schweizer makes all of the appropriate connections with Soviet successes and American retreats from the 1950's through the 1970's. During the same time, he points out, Ronald Reagan was developing his strategy for combating Soviet tactics. Disputing the argument that communism was bound to fail and Reagan only happened to be on hand when it happened, Schweizer gives full credit to Ronald Reagan for the defeat of communism.

Ronald Reagan's emergence in the Cold War began with his opposition (and leadership) to the 1946 strike in Hollywood of the Conference of Studio Unions — a thinly disguised attempt by the Communist Party to take over the movie industry in order to use it to influence America. Despite numerous threats to himself and his family (he actually sat up nights holding a revolver), he never wavered and the strike ultimately failed. Progressing through both state and national politics, Ronald Reagan always supported those who he believed

would best resist the onslaught of communism. Usually these same people either disappointed Reagan or failed to get elected. Finally, Reagan's turn came and he employed the strategy he had argued for over the course of many decades.

The strategy included confrontation through the employment of insurgents – formerly a communist monopoly. Reagan's arming of insurgents actually resulted in freeing two communist conquests – Nicaragua and Afghanistan. These reversals, along with the American invasion of Grenada, caused major concerns among the USSR's client states, including Cuba which demanded massive supplies of weapons. To settle Cuban nerves, Moscow delivered an additional seven billion dollars worth of weapons to them. This was an expense the Soviets could ill afford.

Reagan, of course, understood this weakness of the communist system and continued to take advantage of the Soviets' Achilles heel – their economy. His financing of insurgents cost the United States less than a billion dollars each year while the Soviet Union paid eight billion dollars to finance counter insurgency operations. Reagan also delayed construction of a pipeline which would have sold over seven billion dollars worth of Soviet Union natural gas to Europe. His other measures, driving down the cost of oil (the Soviet Union's largest export), swelling the size of the United States military, and the Strategic Defense Initiative (SDI), cost the USSR dearly. The American military buildup and SDI induced the communists to attempt to compete with increased military expenditures. Against approximately 32 billion dollars in exports, Reagan's initiatives were estimated to cost the Soviet Union between 36 and 46 billion dollars each year. The Soviet Union was operating a deficit and international financing was also being cut off. One quote of Gorbachev is telling: "They look at us in the West and wait for us to drown." Schweizer also explains how the reduction in international oil prices helped the American economy while hurting the Soviet economy.

Of course, the Soviets did not accept all of this without a struggle. They even floated a conspiracy among the East Germans and North Koreans to assassinate Reagan in 1983. Nonetheless, their options were few and most realized they had no choice but to try to reach an arrangement with Reagan. This consensus resulted in the selection of Mikhail Gorbachev as Soviet Party Secretary. In short, Reagan's actions made Gorbachev's selection possible. Gorbachev desperately sought Reagan's assistance in extricating the Soviet Union from the Afghanistan situation and in reaching an international agreement which would end the SDI. On both accounts, Reagan refused.

In providing his argument about Reagan's accomplishments, Schweizer's approach is amazingly simple; chronicling the actual events and contrasting the activities of the Soviets and of Ronald Reagan. Unabashedly, he trumpets Reagan's philosophy and success. While this book will undoubtedly be subject to accusations of excessive simplicity, both in the author's approach and in Reagan's approach to combating communism, a more honest conclusion is that successful combat is often straightforward. The real tragedy is that it took a half century of communist brutality throughout the world for Americans to realize this truth – a revelation made possible only by the courage of one man. Truly, as Schweizer argues, Ronald Reagan stands alone in the 20th century as a unique and fearless leader.

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