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Commandant's NOTE

MAJOR GENERAL CARMEN J. CAVEZZA, Chief of Infantry

TOMORROW'S INFANTRY

Infantrymen everywhere will understand my pleasure and pride in returning to Fort Benning to become simultaneously the Army's Chief of Infantry, the commander of the Infantry Center, and the Commandant of the Infantry School.

I am fortunate to have arrived here fresh from commanding the 7th Infantry Division (Light). That experience and the perspective of the present one combine to give me a good awareness of the needs of our Infantrymen in the field and a recognition of the work the people here are doing to meet many of those needs.

In the few weeks I have been at Fort Benning, I have found there is a new sense of urgency to innovate, adapt, and exploit the many lessons we have learned in recent years, and to project today's Infantryman into every conceivable combat environment. This, my first Commandant's Note, identifies what I believe is the essential direction we must take to shape tomorrow's Infantry. I see our major priorities as being doctrine, training, and force structure and modernization.

Doctrine. The Infantry of the future will have to be agile, lethal, and deployable. The rapidly changing international environment demands that the Infantry be capable of responding to a wide array of threats in a wide variety of geographical conditions.

Doctrine is the foundation upon which all the other elements of Infantry proponentcy are based. It drives our training and education programs, force structure and design initiatives, materiel development and acquisition, and development process.

Since 1982, AirLand Battle doctrine has been the Army's capstone operational doctrine. The essence of this doctrine is simultaneous operation over the full breadth of the battlefield. It has application throughout the operational continuum.

My experience indicates that as the Army evolves its AirLand Battle Future doctrine, the Infantry must place special emphasis on operations short of war. This will continue to be the most likely form of conflict in the 1990s and beyond. It is also probably the least understood and the most diffi-

cult to prepare for. It includes supporting insurgencies and counterinsurgencies, combating terrorism, peacekeeping operations, and conducting peacetime contingency operations. It also recognizes that many Third World countries have modern and sophisticated weapons that pose a serious challenge.

I am particularly concerned that our Infantry doctrine consider the interoperability of special operating forces with conventional forces. Similarly, we must learn how to better integrate light and heavy forces. With the increased emphasis on contingency operations, the Infantry's ability to deploy and employ the appropriate mix of special, light, and heavy forces will take on increased importance.

Our development of new Infantry systems and their integration into the Infantry force structure must be based on emerging Infantry doctrine. This doctrine now focuses on light and heavy Infantry systems, antiarmor weapons, and mortars, which form the current basis of Infantry functions on the modern battlefield. In our future doctrinal reviews, we must revalidate the continuing need for each of these functions. In this review process, nothing can be held sacrosanct. Every function must be justified on the basis of need, not of tradition.

Training. Preparing Infantry leaders and soldiers to fight, win, and survive is our training mandate. The quality of that training effort is a measure of our readiness and the credibility of our deterrent capabilities.

In training the future Infantry force, we will take on unique challenges, the most obvious of which will be the one posed by reduced resources. It is getting more and more expensive to train to the required standards of proficiency, and resources to support that training are becoming less readily available. The old adage of training smarter with less is a reality that we must learn to deal with.

But how do we do that?

First, we must demand the development of Infantry systems on which Infantrymen can rapidly master and sustain their skills. We cannot afford to field systems that require inordinate amounts of training time to sustain individual

proficiency. Individual proficiency must be mastered rapidly and sustained through multi-echelon training so that we can concentrate our efforts on the complexities of collective training.

Second, we must emphasize weapon training. Infantry soldiers must be trained individually to specific combat marksmanship standards that include single and multiple targets, both moving and stationary, as well as fully and partially exposed targets under all battlefield conditions, including day and night (using artificial illumination, passive, and thermal sights) and NBC engagements. We must be as effective at night with our weapons as we are during the day.

Finally, the School has been, and will continue to be, an active participant in many of the Army's simulation programs. It has continually emphasized the design and use of simulators to support specific training and analytical objectives. Today, the reasons for using these and other training aid devices, simulations, and simulators are even better than they were when the programs began. Not only do we have fewer resources, there is an ever-increasing demand on those we do have—manpower, equipment, ammunition, POL, as well as travel and training time. All of these resources, it is important to remember, translate into money, which will not be plentiful in the years ahead.

I cannot overemphasize the critical role our Infantrymen play in combat. The recently completed Operation JUST CAUSE reaffirmed its importance to combat success.

If we are to have an agile and lethal Army, then we must also have effective Infantry leaders at all levels, but particularly at the small-unit levels. They must be agile in the sense that they have been trained to think on their feet, react quickly to changing combat situations, and act independently if need be. They must be lethal in the sense of being physically fit and capable of properly employing every soldier and every bit of firepower at their disposal.

In short, our small unit leaders, both commissioned and

noncommissioned officers, must be positive, proficient, firm, and professional. It is the function of the School's leader development courses—OCS, IOBC, IOAC, and NCO Academy courses—to give our Infantrymen the leaders they deserve.

Force Structure and Modernization. Combat development is the starting point for all activities at the Infantry School. Our future will be greatly influenced by the quality of thought and effort we put into our analytical work today. Our vision of the Infantry's future battlefield roles and missions, and of its ability to deploy anywhere in the world, will drive the design of the Infantry's organizations and the modernization of its weapons and equipment.

With ~~mandatory~~ reductions looming on the horizon, we must look closely at their effect on the Infantry force and develop strategies that will best align and prepare the Infantry force for the future.

The 1990s and beyond will be a challenging period for the Infantry. As already mentioned, competition for resources will be keener than ever. Although our branch will become smaller, it must become even better. While the threat is changing, there is still a probability of conflict almost anywhere in our complex world, and we must not become complacent. The Army's challenge is the Infantryman's challenge. The Infantry has always led the way in the past and will continue to lead the way and meet the challenges of the future.

We will work hard to make sure the Infantryman can perform to the fullest his role as a member of the combined arms team. To meet these challenges, we need your ideas, suggestions, and feedback. I realize that those of you "in the trenches" have more than enough to do in handling your units' daily training and maintenance and that you may find it difficult to take time to worry about the challenges facing our branch as a whole. But if we are to succeed at meeting those challenges, we must have your input. Let us hear from you!



INFANTRY LETTERS



AIR DEFENSE ARTILLERY

EDITOR'S NOTE: We recently received the following letter from the Commandant of the Air Defense Artillery School. We are grateful to all of our senior officers who take the time to share their thoughts on subjects that are important to the Infantry community.

I recently finished reading the September-October 1989 issue of *INFANTRY* and found it outstanding. I read with particular interest Captain Michael I. Parietti's article, "Organic Air Defense for a Light Infantry Company" (pages 38-40). As Chief of Air Defense Artillery, I applaud his concern and effort to improve the air defense of the maneuver forces. I must take exception, however, to the notion that the air defense of light infantry forces could be improved simply by providing Stinger missiles to Dragon gunners.

The Air Defense Artillery community

has studied for many years the use of nondedicated gunners for the man-portable air defense system (MANPADS). Each of these studies has shown that effective MANPADS gunnery is achieved only through the use of trained, dedicated gunners.

A review of four key issues will highlight the severe limitations of Captain Parietti's proposed solutions:

Training. Studies comparing dedicated and nondedicated MANPADS gunners have shown that MANPADS gunnery is a skill that requires intensive training on a continuing basis. The studies have consistently shown that two critical MANPADS skills—aircraft recognition and range estimation—are highly perishable. As the accompanying chart indicates, nondedicated gunners trained only in the mechanical techniques of firing the system have a high probability of not launching, of firing at targets that are out of range, or of engaging friendly aircraft. The result is extremely ineffective air defense coverage.

Employment. The effective employment of Stinger requires the deliberate deployment of the weapon on the battlefield to support the commander's intent. An intelligence preparation of the battlefield (IPB), and an Air IPB in particular, is critical. Unfortunately, the suggested solutions, like most nondedicated gunner solutions, leave the employment of the missile to chance. The results are poor battle positions and the destruction of the protected force before the missile is launched.

Command and Control. Due to limited engagement windows, MANPADS gunners are highly dependent upon early warning, cueing, and IFF (identification, friend or foe) to ensure successful engagements. Without these, a nondedicated gunner is limited to a self-defense role, engaging only after he is fired upon. This lowers the probability of kill considerably because of short reaction times. In many cases, this will result in missed targets or a gunner's failing to fire.

Combat Experience. The Mujahidi-

Historical Gunner Effectiveness

Skills	Non-Dedicated Gunners	Dedicated Gunners Redeye / Stinger	Difference
Proper Range Ring use during engagement	32%	87%	Dedicated gunner 2.7 times more proficient
MTS engagement drill using same target sets (Volume of Fire)	45% fail to launch 25% one launch 30% two launches	13% fail to launch 29% one launch 58% two launches	Dedicated gunner launches 3.5 times more often fires 2 rounds twice as often
Visual Aircraft recognition (VACR)	61%	86%	Dedicated gunner recognizes target 1.5 times more often

deen's use of Stinger in Afghanistan proved the value of dedicated Stinger gunners. The Mujahideen obtained a 79 percent kill rate by using dedicated gunners deployed to best support the commander's intent. The gunners were selected on the basis of intelligence, literacy, and initiative. Emphasis was placed on tracking techniques, range estimation, and correct firing aspects. Since all the aircraft in the area were hostile, the Mujahideen's command and control problems were greatly reduced and fratricide was not a problem. (See "Stinger in Afghanistan," by Major William McManaway, *AIR DEFENSE ARTILLERY*, January-February 1990, pages 3-8.)

Throughout history, successful mission accomplishment has come about through the use of trained soldiers who were skilled in their craft, led by competent leaders, and deployed at the right time and in the right place. Any compromise of this proven recipe for success must be deemed unacceptable. The proliferation of Air Defense Artillery weapons in the hands of untrained gunners is likewise unacceptable.

DONALD M. LIONETTI
Major General, U.S. Army
Chief of Air Defense Artillery
Fort Bliss, Texas

ARGUMENT CONTINUES

I am a prior-service noncommissioned officer who earned the Expert Infantryman Badge (EIB) while serving in the 1st Battalion, 75th Ranger Regiment. A few years later I left the Active Army to attend ROTC and serve in the Nebraska National Guard. I was assigned to that state's long range surveillance detachment and from that position served as a module NCO in charge of the Guard's fall 1989 EIB testing. I therefore feel qualified to comment on Platoon Sergeant Marshall K. Maddox's perception of today's EIB (*INFANTRY*, March-April 1990, page 4).

Sergeant Maddox says in his letter that "since the standards are the same as those required for the average infantryman"

we should take the "Expert" out of the EIB title. I reread the prerequisites for the EIB that Major General Michael Spigelmire included in his Commandant's Note on the same subject in the September-October 1989 issue (pages 1-2), but came away with some different interpretations from Sergeant Maddox's. For example, those prerequisites include qualifying as an expert marksman, and this is not an "average" task, particularly on the new computerized ranges.

Although it was not mentioned in the Note, a soldier must attain a score of at least 70 percent in each category of the Army Physical Fitness Test (APFT). In reference to standards, this is also much more difficult to attain than it was a few years ago.

Another thing I noted was that the first-time-pass rate in 1989 was 20 percent. In 1989, 50 highly motivated volunteers tested for the EIB in Nebraska, and four earned the badge (one second lieutenant and three NCOs) for a total of 8 percent, not exactly a give-away.

Sergeant Maddox also seems to associate prestige with limited numbers. He seems to feel that if we ration the EIB it will be more prestigious. Many times in the Ranger battalion, we had more people who had earned the Ranger tab than the EIB. Both were still prestigious—both were earned by deserving volunteers.

The sergeant also attacks the practice of scheduling training for EIB testing. I feel that commanders and all leaders should be commended, not berated, for placing emphasis on this training. If a soldier learns a task through repetition, I am thankful we had the time for him to do it, because no matter how he learned it, one day it may save his life or the lives of other platoon members.

Soldiers do have to use "self-motivation" and their "own personal time" to train for EIB testing. But I would like to point out that a CMF 11 soldier in a line unit regularly works 12 to 14 hours a day, and he may work or be deployed 150 to 300 days a year. He has far less "personal time" than a CMF 11 Active Guard Reserve soldier who may have a headquarters job. So "personal time" is relative. Commanders who don't allow their

soldiers to train for the EIB are not increasing the prestige of the badge; they are actually doing a disservice to the soldiers and the Army.

As a regular Army officer and a future platoon leader, I look forward to leading men who have earned the EIB and also those who have competed unsuccessfully for the badge but are willing to compete again. Then I'll know I have a platoon of highly motivated volunteers, an element of experts who know the standard of excellence and can be expected to maintain it.

WILLIAM B. OSTLUND
2LT, Infantry
Fort Benning, Georgia

OLD SOLDIERS' ARGUMENT

The prestige of the Expert Infantryman Badge is not in decline, as Sergeant Maddox states in his letter in the March-April 1990 issue of *INFANTRY*. If a few old soldiers think that too many young soldiers are earning the badge, then they need to look at the soldiers, not criticize the test. Yes, there are more soldiers wearing EIBs, not because the test is too easy but because the infantry soldiers are so much better.

I earned my EIB as a young private in 1974. The test was tough and the standards were high. Since then, I have trained and tested hundreds of EIB candidates while serving as a squad leader, platoon sergeant, platoon leader, and company commander. First-hand observation of 16 years of EIB tests has clearly proved to me that the test is not getting any easier. In fact, as the duties of the infantryman have become more complex, the test has become more demanding.

And as for Sergeant Maddox's comment that the standards are the same as those for the average infantryman, my only question for him is: When was the last time you scored 100 percent on your SQT?

U.S. Army Infantry Center Pamphlet 350-6, The Expert Infantryman Badge Test, states that one of the purposes of the EIB is to "enhance individual training programs in infantry units by provid-

ing a difficult, yet attainable, goal for which infantrymen can strive." So when I schedule training for the EIB, I set aside time to concentrate on tasks and, through repetition, to improve the training of all my soldiers.

Self-motivation plays an important role, and it is not diminished a bit by my scheduled training and practice sessions. When an individual soldier comes to the test station or steps off on the road march, it is up to him. He has to provide the motivation to successfully complete the event. Hopefully, my training program has taught him how to do the task and has instilled in him the confidence to know that he can do it.

That is what training is all about. Go to an EIB test site and look at the faces of the candidates after they have passed the first three or four stations. Their confidence shows, and it continues to grow as they continue from station to station. That is the true benefit of the test.

Today's infantryman is smarter, better educated, and more sophisticated than his predecessors who went through advanced individual training with me at Fort Polk in 1974. He is more capable and much easier to train.

It seems almost mandatory for old soldiers to tell the "youngsters" that in the old days the tests were harder, the schools were tougher, and men were really men when they had to shoot a "real" rifle. But how many of these old soldiers went through the last really tough airborne, Ranger, or basic training class?

The truth is that the schools, the tests, and the infantry are not getting softer and easier. They are better than ever. If the EIB, or the infantry, is losing its prestige, it's because the old infantrymen who are still living in the brown boot Army keep telling everyone who will listen how tough things were in the bad old days.

JOHN M. CHENOWETH
CPT, Infantry
Fort Sill, Oklahoma

GUNNERY MYTH

Major Michael R. Jacobson's article "Antiarmor: What You Don't Know

Could Kill You" (INFANTRY, March-April 1990, pages 37-40), made some salient points concerning antiarmor warfare. Unfortunately, he has perpetuated the myth that highly trained Dragon gunners will proportionately increase gunnery scores, and he cites Marine Dragon gunner/leader training as proof.

While it is true that Marine gunners average a higher probability of hit (PH) with the Dragon than do Army gunners, Missile Command data suggests that the difference is around 10 percent—hardly "significant." Furthermore, the Marine gunner's course devotes about the same number of hours to the Dragon as the Infantry School course does. The difference in hours is due to instruction on other antitank weapons (AT-4, LAW, and field expedients). The Marines train AT specialists, not just Dragon gunners.

Although Marine gunners are stabilized (moreso than Army gunners) and



receive more live rounds during the course of a career, the fact that the difference in overall live fire results are not significant suggests that increased training and gunner stability will not significantly improve gunnery scores.

More important, live fires for both the Marine Corps and the Army are usually achieved in a sterile training environment. Targets are stationary; gunners are relaxed and under little or no stress; visibility is not limited; the best gunners usually fire the missile; and live fires are preceded by an intensive train-up. This calls into question the validity of any live fire statistics, regardless of service. Any unit that boasts high Dragon PH statistics should carefully examine the conditions under which they were obtained.

I agree that gunners should be stabilized. Unfortunately, though, the Army additional skill identifier (ASI) management system precludes successful person-

nel management by most units. It is telling that the Infantry School produces approximately 2,000 gunners a year but only a relatively small percentage of them ever reach TOE Dragon positions.

If you agree, however, that the medium AT gunner requires specialized training because of his importance on the battlefield, then he should be awarded a separate MOS (like the 0351 Marine gunner), or the specialty should be rolled into the 11H (TOW) series. In this case the need to stabilize gunners and provide specialized training is a result of the Dragon's design characteristics, and an inordinate amount of time is required to sustain only minimum levels of proficiency.

I agree that more emphasis on unit Dragon training is required, not because this training will increase live fire hits but because it will show gunners that they are more likely to miss the target. Having gunners who are more educated and who carefully select their targets will result in fewer dead gunners. The bottom line is that training and personnel management cannot compensate for a poorly designed weapon.

DEE C. CHRISTENSEN
MAJ, Infantry
Puyallup, Washington

CINCINNATI ROTC ALUMNI

The Army ROTC Department at the University of Cincinnati is establishing an Alumni Association. The association will seek to support the corps of cadets through affiliation with previous members and recognition of their deeds and accomplishments.

Alumni of the University's Army ROTC program are invited to send their names, addresses, and telephone numbers to Army ROTC, ML-44, University of Cincinnati, Cincinnati, OH 45221-0044 or call Cadet Captain Terrence Brandt or me at 513-556-3660.

DANIEL D. GRAFF
CPT, Field Artillery
Cincinnati, Ohio

ARMORED FORCES MONUMENT

An impressive monument is being planned that will honor the "citizen-soldiers" and the "citizen-Marines" who have served in armored forces since World War I.

The Armored Forces Monument will consist of a three-foot wall around a 30-by-40-foot black granite engraving that depicts the evolution of armored forces from the U.S. cavalryman through World War I, World War II, Korea, and Vietnam. It is scheduled to be dedicated on Veterans Day, 11 November 1990.

It will be adjacent to Arlington National Cemetery's new visitors center on Memorial Drive where some four million visitors will see it each year.

The memorial is being financed through donations, not public funds, as a gift from veterans to the American people in the spirit of "Their Valor is Your Heritage."

Veterans and friends of the U.S. Army's armored forces who are interested in contributing to the memorial may write to the Armored Forces Monument Committee, P.O. Box 1146, Fort Myer, VA 22211.

JAMES H. LEACH
COL, U.S. Army, Retired
Beaufort, South Carolina

RANGER ORIENTATION

I read with great interest the article "Ranger Orientation Program" (by Captain Charles T. Sniffin and Sergeant First Class Mallory L. Sump, INFANTRY, March-April 1990, pages 42-45). I would like to offer a suggestion for those who want to implement the program at their schools or units:

At the point when the company operations order (OPORD) is given to the assembled patrols, no chain of command should be announced. Let the members of each patrol plan out their mission as a group and prepare to backbrief the commander. The backbrief should be informal with no "props," only a blank map and a chart of the OPORD format on the wall.

Here's the key point: No notes. Each student who is involved in the planning must know the complete plan by memory—ingress route, egress route, the patrol's objective rally point (ORP).

Give each patrol enough time as a group to make up a plan and to get all the details down cold as individuals. Then have the briefback. Start off with whoever the commander selects and go right down the format. At any time, the commander may say, "Thank you, Cadet Jones; you pick up from here, Cadet Smith." This will ensure that all the patrol members have a complete interlocking, mutually supporting understanding of the plan.

I know this method will work. We used it for our mission planning in the 10th Special Forces Command Area Study and Mission Analysis Program (CASMAP). I ran the program for two years, and I put our A teams through on their missions using this method. My guess is that with all the profound changes in the world, the missions have probably changed, but the method still applies.

My thanks to Captain Sniffin and Sergeant Sump. I wish I had had this kind of article to prepare me for Special Forces School.

WILLIAM M. SHAW II
MAJ, Military Intelligence
Hollis, New Hampshire

47th INFANTRY
REGIMENTAL ASSOCIATION

The 3d Battalion, 47th Infantry Regiment—all that remains of the regiment on active service—has established the 47th Infantry "Raider" Regimental Association to preserve the traditions and honors of the regiment. The association is made up of former and present members of the regiment and anyone who would like to support its preservation.

Further, in 1989, the 47th Infantry Regimental Hall of Honor was established at the 3d Battalion's headquarters at Fort Lewis, Washington. Currently, the hall contains regimental memorabilia dating back to World War I, along with the names and accomplishments of sev-

eral distinguished members of the regiment. All of the items in the hall were donated or placed on loan by former members of the regiment.

The battalion is seeking additional memorabilia to display and also accounts of battles to continue to flesh out our history. Anyone who would like to join the association or who has memorabilia to donate or lend to the association may obtain further information from Commander, 3d Battalion, 47th Infantry, ATTN: Regimental Adjutant, Fort Lewis, WA 98433-6540.

EDWARD E. THURMAN
LTC, Infantry
Fort Lewis, Washington

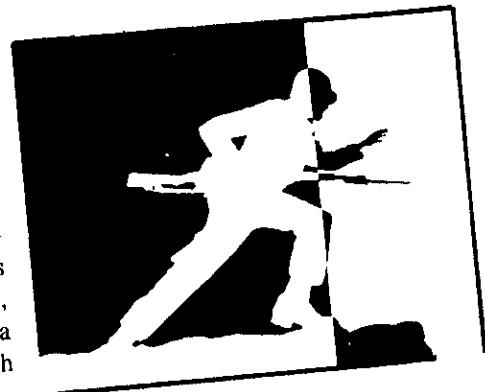
SHAEF AND ETOUSA REUNION

The Veterans Association of the Supreme Headquarters, Allied Expeditionary Force (SHAEF) and the European Theater of Operations, U.S. Army (ETOUSA) of World War II will hold its sixth annual reunion in Abilene, Kansas, 13-14 October 1990.

The reunion will coincide with the national observance of the 100th anniversary of the birth of President Dwight D. Eisenhower.

Anyone who needs additional information may write to me at 2230 South Overlook Road, Cleveland Heights, OH 44106; telephone (216) 721-0921.

WILLIAM LAHMAN
Vice Commander



INFANTRY NEWS



THE ATTRITION RATE for the Master Gunner Course has been exceptionally high, and steps must be taken to remedy this situation.

The course, which is run by the Bradley Instructor Detachment of the 1st Battalion, 29th Infantry at Fort Benning, is the premier course for Bradley infantrymen and is widely recognized as one of the most difficult courses for infantry soldiers. Neither the prerequisites nor the standards for admission have changed.

The Bradley Gunnery Skills Test (BGST) is administered before the course starts to ensure that the students have mastered the basic Bradley skills upon which the course will build. A review of student records for those who failed this test, or who later washed out of the course academically, reveals that a lack of Bradley experience and inadequate unit preparation are the most common causes for failure.

Commanders and students should know, too, that in accordance with Change 1 to FM 23-1 the students do not have access to field manuals or technical manuals during the BGST. This has caused some confusion in the field. As a result, some inadequately prepared NCOs have failed the test and have been turned away from the course.

Commanders and sergeants major should carefully screen their soldiers looking for sharp and experienced 11M noncommissioned officers to attend the course. The soldiers selected to attend should be notified well in advance of their class dates and should participate in a thorough training program in the unit that will prepare them to pass the BGST. The unit training program for potential students must be well organized and well run. Leaders must also see that the students are trained to standard, because they will be held strictly to the standard at Fort Benning.

Another problem that has arisen is one

of finances. Because the students are not allowed nonavailability for rations while on temporary duty at the Master Gunner Course, it is critical that they receive 100 percent advance TDY payments before leaving their units. (Army Regulation 37-106 authorizes commanders in the rank of colonel and above to waive the policy limiting advance TDY pay to 80 percent.)

Although a message addressing this problem has gone to the field, students continue to arrive with little or no advance pay.

During some recent classes, a full day had to be taken from the program of instruction and dedicated to dealing with students' financial problems. This unprogrammed deviation from the POI required accelerated instruction in other areas to get the classes back on track. Ensuring that the students receive full advance pay will ease the financial hardships on them and their families and will allow them to concentrate on the demanding course requirements.

With the Bradley force maturing, the Master Gunner Course has been examined recently to see if it still meets the needs of the field. A revised, nine-week POI is undergoing staffing at the Infantry School for implementation in Fiscal Year 1991. This new POI will retain all the essential elements of the course and eliminate those that are no longer needed.

The instructor operator (IO) course will become a prerequisite for the Master Gunner Course effective October 1990 and will no longer be taught during the course. In addition, the senior instructor operator (SIO) subcourse will be shortened from 15 days to 11.

The advantages of this new POI will include smaller TDY bills for units, shorter separation periods for students, and up to three additional classes of 50 students each per year.

The point of contact at the Bradley Instructor Detachment is CPT Daniels.

AUTOVON 784-6136 or commercial (404) 544-6136.

THE NATIONAL INFANTRY Museum recently received notice of its recertification from the Center of Military History. As part of its preparation for the recertification inspection and evaluation, the museum staff has improved and updated the museum's story line and redesigned its exhibits, using new display techniques.

Many "new" artifacts are now being shown. The story of the infantryman has been brought up to date with displays relating to Operation Just Cause and current uniforms and weapons used by the United States Infantry.

Among the items shown in the invasion of Panama display is a Panamanian Defense Force flag that was captured 20 December 1989 by the 2d Platoon, Company C, 3d Battalion, 75th Ranger Regiment, at General Manuel Noriega's military command headquarters.

Also shown are a Panamanian battle dress shirt, cap, and combat boots captured the same day and a Panamanian Defense Force machete like those presented to Panamanians who attended rallies in support of General Noriega's anti-U.S. policies.

Another section that has been added is one about the Infantry Board, established in 1903 at Fort Leavenworth, Kansas, and moved to Camp Benning, Georgia, in 1919. The board's sole function has been to consider subjects that are vital to the infantry. A number of pieces of equipment tested are shown as well as photographs of equipment tested and of personnel of the 29th Infantry Regiment using that equipment as part of the testing process. From wool socks, steel helmets, guns, bayonets, and vehicles, the Board tested anything an Infantry soldier

could carry, wear, fire, eat, or otherwise operate.

Still another important addition to the museum is a gift shop called the Regimental Quartermaster Sales Store. The need for a gift shop has been recognized for several years, and it has become well established in the short time it has been in operation.

Examples of items offered for sale are postcards, T-shirts with various emblems and insignia (such as crossed rifles, Iron Mike, Follow Me, and the Bradley Infantry Fighting Vehicle); mugs with Airborne, Ranger, or Combat Infantryman Badge decals; apothecary jars with various emblems and insignia; baseball caps; books; posters; prints; canvas tote bags and aprons labeled "Army Wives are Special" and the Follow Me patch; silver letter openers that are replicas of the infantry M-1 bayonet, and pewter, pottery, and glassware. A mail order catalog will soon be available.

The National Infantry Museum Society, formed at Fort Benning a number of years ago to assist the museum with financial and volunteer support, is open to anyone who is interested in joining. The cost is \$2.00 for a one-year membership or \$10.00 for a lifetime membership.

Additional information about the museum and the society is available from the Director, National Infantry Museum, Fort Benning, Ga 31905-5723; AUTO-VON 835-2958 or commercial (404) 545-2958.

ACTIVE, GUARD AND RESERVE (AGR) soldiers who are not selected for continued service will be released from active duty 90 days after notification. The procedure applies to soldiers considered by the AGR continuation boards that convened in December 1989 and January 1990, and by all future boards.

Before the interim change was made to Army Regulations 635-100 and 635-200 in November, soldiers not retained in the program remained on active duty until they completed their current assignments.

Soldiers must go before a continuation board before the end of their first assign-

ment and then once every five years thereafter. Officer boards convene in January and July; enlisted boards in December and May.

There are two exceptions to the 90-day rule: Soldiers serving their initial AGR assignment will be released at the end of that assignment or 90 days after notification, whichever is later; and any soldier not selected to continue may request earlier release from active duty.

Soldiers who have further questions about the change should contact their personnel management officers.

VETERANS OF OPERATION Just Cause are now authorized, by Army Reg-

ulation 670-1, to wear right shoulder insignia for former wartime service. Soldiers who were in Panama during the period from 20 December 1989 to 31 January 1990, and who participated in or supported wartime operations, may wear the unit patch.

The authorization includes soldiers assigned or attached to: U.S. Army South; U.S. Special Operations Command; XVIII Airborne Corps; 5th and 7th Infantry Divisions; 82d Airborne Division; 1st Special Operations and 1st Corps Support Commands; 193d Infantry, 16th Military Police, 18th Aviation, 470th and 525th Military Intelligence, 44th Medical, 35th and 1109th Signal Brigades; 7th Special Forces Group; 75th Ranger Regi-



A FLAMELESS HEATER for rations has been developed by the U.S. Army Natick Research, Development, and Engineering Center. The heater consists of a thin water-activated exothermic chemical heating pad, measuring 4½x3½ inches and weighing 20 grams; it is packaged in a 5x14-inch bag that has been sized to hold an MRE (Meal, Ready To Eat).

The system offers several advantages over the current canteen cup stand and fuel bar method: It takes less time and less water and does not give off a flame or noxious fumes. In addition, it will heat

an MRE while a soldier is on the move, and the meal will stay warm for an extended period inside the bag and carton.

To heat an MRE, a soldier places it inside the bag with the pad and adds two ounces of water. If the soldier is moving, he can then slide the bag inside the MRE's paperboard carton and carry it in his BDU pocket while it heats. It takes about 12 minutes to raise the temperature of an 8-ounce entree 100 degrees Fahrenheit.

The heaters may be distributed to the field beginning in October 1990.

ment; and 1st, 2d, and 3d Battalions, 75th Ranger Regiment.

Veterans assigned to units not listed above and not attached to or under the operational control of any unit listed above will wear the shoulder sleeve insignia of U.S. Army South.

THE FIRST AMENDMENT to the U.S. Constitution guarantees the freedoms of speech, press, and peaceful assembly, as well as the right to petition the government for a redress of grievances.

To support next year's bicentennial of the Bill of Rights, a newly published 35-page Army essay, "The First Amendment: A Resource Guide," traces the philosophical and political debate that led to the passage of this important amendment. The booklet also traces the historical path freedom of speech has taken since 1798.

Anyone who would like a copy of the booklet may write to Office of Chief of Public Affairs, HQDA (SAPA-LSMS), Washington, DC 20310-1510.

PRIORITY REQUIREMENTS exist for trained Defense Department-certified polygraph examiners who are in a Reserve Troop Program Unit, the Individual Ready Reserve, or the Individual Mobilization Augmentee program.

The Intelligence and Security Command (INSCOM) is interested in hearing from Reservists who have had prior military polygraph training and would be willing to undergo DOD polygraph training, if needed, to become certified DOD examiners.

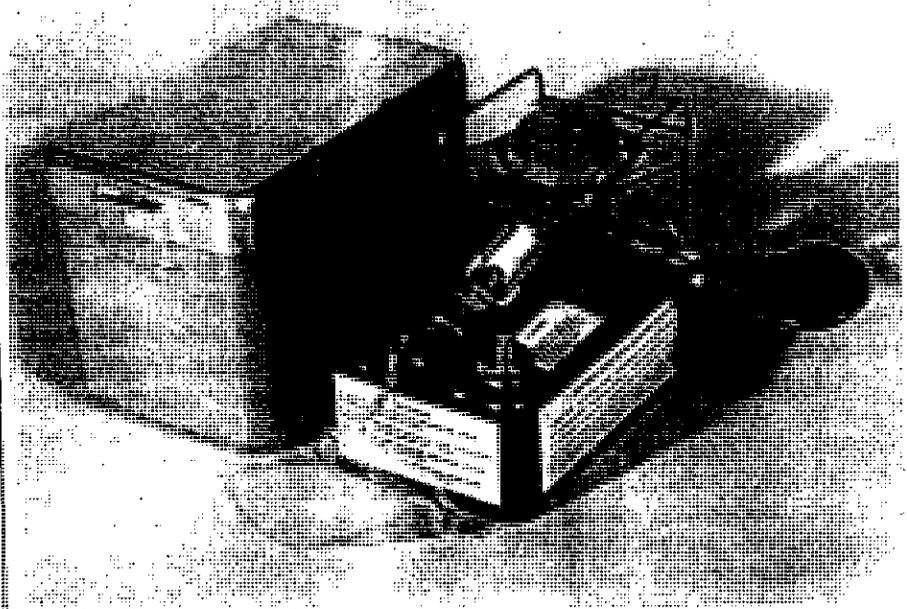
Interested Reservists who are qualified should contact COL Jim Hemenway,

Headquarters INSCOM, AUTOVON 229-1328, or commercial (703) 706-1328.

LOCAL RETIREMENT SERVICE offices conduct mandatory pre-retirement briefings that all soldiers must attend as soon as they have 18 years of active federal service. Then they must attend the briefing once every three years until they retire. Their spouses are also encouraged to attend.

The information provided is invaluable to potential retirees. The topics covered include the Survivor Benefit Plan (SBP); the old and new G.I. Bills; disability retirement; terminal leave; allotments; identification cards; Department of Defense retirement; various Veterans Administration benefits; military health care; and retirement physicals.

Eligible soldiers should contact their local Retirement Services Office for details about the next pre-retirement briefing.



A MULTIFUEL INDIVIDUAL/Squad stove (MISS) has been developed by the Natick Research, Development, and Engineering Center. The stove burns any available battlefield fuel, including all grades of diesel and gasoline as well as turbine fuels JP4, JP5, and JP8, and it requires no preheating fuel.

The stove weighs 2 3/4 pounds, its case

doubles as a pot for heating up to six MREs, and spare parts and tools are included in the pump handle. It produces 8,500 BTUs per hour, burns for 1 1/2 hours per tank, and will melt a caseful of snow or boil a quart of water in five minutes.

The stove replaces the current gasoline-fired M1950 stove.



PROFESSIONAL FORUM



Infantry's Top Gun

COLONEL DAVID H. HACKWORTH, U.S. Army, Retired

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The United States Army has come a long way from those dark days in the early 1970s just before it pulled its units out of Vietnam. The recent operation in Panama certainly showed the world the Army is back on track. A major factor that has contributed to this improved combat readiness has been the stabilization of infantry brigade and battalion command tours. It is time for the Army to do the same for the key combat player—the infantry company commander—and start treating him like the most important commander in the chain of command, which he is.

The British Army has long recognized the importance of having a true professional as the skipper of every one of its infantry companies, an officer who knows his trade inside and out and who can train and fight his company with great skill and precision.

From Waterloo until today, the British Army has consistently fielded superior regular infantry units at the cutting edge. For a recent example, take a look at the 1982 Falklands campaign. British Army and Marine units assembled their people from all over the world in the blink of an eye, and set sail on a scratch

fleet right out of McHale's Navy.

Arriving in the Falkland Islands, they launched a coordinated attack against an entrenched, numerically stronger force that had good fire support backed up by hardhitting and effective tactical air support. Amazingly, they did all of this in freezing weather, over rugged unfamiliar terrain, and on a floating logistical shoestring. The British "Queen of Battle" won against odds that a Las Vegas gambler wouldn't have touched with a ten-foot pole.

PROFILE

In examining British infantry history to find the secret to their success, I found that the single factor that has made their infantry so consistently combat effective was the company commander. A profile of an average British infantry company commander in the Falklands War, for instance, would look like this:

He was a 35-year-old major with 15 years of service and a lot of company level troop experience under his belt. He had served in infantry assignments in hot places like Northern Ireland and cold

places like West Germany, and he had trained in some lukewarm places like Asia, Africa, and Latin America. Additionally, he had completed a number of command and staff courses and had probably served on battalion and brigade staffs. In sum, he had the background and experience to train, lead, and fight a company of infantry and to do the kind of job it did so well under the most adverse conditions.

He probably didn't have a university degree, but he did have a degree in *infantry*. His wide experience had taught him that great armies are composed of well trained infantry squads and platoons. He had learned, too, that his job was to forge his squads and platoons into hardened steel. His realistic pre-Falklands unit training program followed the time-tested rule that the more sweat on the training field with heavy concentration on the basics, the less blood on the battlefield.

A British infantry officer may get two shots at a company command: one two-year tour as a senior captain and another two-year tour as a major. On the other hand, his 1990 U.S. counterpart normally gets only one go as a com-

pany commander for an average of 18 months.

Before the Vietnam War, many infantry company commanders in the U.S. Army had the same kind of command experience found in today's British Army, and on a one-on-one basis our units were just as good. For example, in my 8th Infantry Division unit in 1961, the average company commander was on his fourth command tour and had a total of about 15 years of service with troops. These skippers knew their stuff because they had learned it the best way: by doing it and then doing it again until they got it right. Most never worried about ticket punches and only wanted to stick with their units.

Because these veteran commanders had had the freedom to fail way back on their first command tours, they had learned from making mistakes. The policy then was not immediate excellence or you're out. Accordingly, they learned the art of company command without worrying that they weren't doing the job. As they matured and learned, they were better able to pass their knowledge on to their subordinate leaders and their soldiers. This freedom also developed their confidence and produced commanders who were risk takers, and this is the most important factor in winning in combat.

These professional commanders—many of whom had fought in World War II, the Korean War, or both—knew that their soldiers were their most valuable assets. They, like their British counterparts today, knew that battles were fought and won by well trained, well led squads and platoons. They knew it was their sacred obligation to train their individual soldiers to the highest state of combat readiness, for those men would be at the leading edge taking the highest risks and paying the ultimate price in any future war.

By the mid-1960s, for a number of reasons, the Army had lost its great pool of seasoned company commanders. Their successors were too inexperienced to keep it all together. They did not have the training or the experienced NCOs they so badly needed to help them command frequently unwilling and openly rebellious companies of draftees. To

further complicate their problems, their units normally operated as independent forces on a decentralized counterinsurgency battlefield against a battle-scarred, professionally led foe who held the initiative. At the maneuver level, they were the wrong skippers to have at the helm.

George Patton, one of the U.S. Army's most knowledgeable commanders and greatest trainers, is reputed to have said that an officer is not worth a pinch of salt until he has had a minimum of ten years commanding troops. I agree with his sentiment, but would not put an exact time on how long it takes for a leader to learn what is essential to lead on the battlefield and, who, as George Wilson says in his book *Mud Soldiers*, "...will decide who lives and who dies; who wins and who loses."

Like everything else in the combat business, it depends on the enemy, the terrain, the weather, and the leader concerned. I will say from my experience that the longer an officer stays at company level, the better troop leader he will become, but only if he has had a seasoned, mature skipper to ~~teach him~~ how to lead by his example, guide him through the minefields of infantry command, and hammer the tricks of the trade into his head.

MOST IMPORTANT

I am convinced the most important leader in the Army is the infantry company commander. An infantry company has the most dangerous job and takes the most heat. The primary purpose of the vast U.S. military apparatus is to support the infantry company so it can accomplish its assigned mission. Its commander is faced with tough life-and-death decisions and should be among the most qualified infantry leaders in the Army. He should be a top gun.

Most young infantry leaders that I have spoken with recently want to do just that. Wilson, who spent two years researching his book, sums this frustrating problem up with the comment that "most (infantry officers) would rather stay in the mud and learn their jobs. It's the damn system. Rotate or else."

Like the British, the U.S. Army should make the infantry company commander a major, too, and the company should have a captain as deputy company commander and a senior lieutenant as executive officer. The commander's position should be a single-track career field in itself, and its occupant should stay there for at least three years and then move to another company.

This field grade skipper should be mature, understand soldiers and soldier psychology, and be a great hands-on trainer. He should not be learning at the expense of his troops or be concerned that if he makes a mistake he is out. He should be a total professional and an inspiration to all in his command.

As a major, the company commander will be able to take green platoon leaders with the least amount of experience and the toughest job in the Army—to close with and destroy the enemy—and mold them into tactically and technically competent leaders full of confidence and common sense and a strong desire to take care of their men. He will have the time and the experience to train his NCOs properly so that once again they will be the strong backbone of the Army. And his broad troop leading experience will allow him to train and motivate the first termers and convert them into physically rugged, spirited combat soldiers who will hang tough in combat.

As a major, a company commander will not be that distant in rank from his battalion commander. Consequently, he will have the experience and confidence to defend his point of view. Also, if he is promoted, he should be able to make an easy transition to the higher rank. Not only will he bring great maturity to his position, he will have nothing to prove except to make his unit the best company in the world. In brief, the major will serve his unit with salty professional leadership that will accomplish the mission with fewer casualties. And if he is not promoted, there is no reason why he should not stay as a company commander and keep doing his thing until he retires.

Today, in the U.S. Army, the time between company and battalion command is at least ten years. With future force re-

ductions, that already too-wide gap will become unbridgeable. As the defense dollar is reduced, the importance of putting absolute professionals in command of the Army's infantry companies becomes even more critical. In the future, fewer training and maintenance funds will be available, and the seasoned skipper will be better equipped to jump over this hurdle. His experience will allow him to train his command effectively and inexpensively in the local training areas, while continuing to make the training exciting and adventurous.

Additionally, it appears that, because of restricted funds, by the year 2000 the Active Army's strength will be much less than what it is today. This will create even more difficult challenges for the infantry company commander, because his future missions probably will be focused on medium and low intensity operations. The Army will need the sharpest leadership and the most seasoned and cunning infantry company commanders to successfully fight these multifaceted, highly complicated, decentralized campaigns.

The Army can ensure having that kind of leadership if it will put majors in command of infantry companies. Its soldiers deserve this, because their very lives depend on it.

Colonel David H. Hackworth is the co-author of the recent best seller *About Face* and the 1967 publication titled *The Vietnam Primer*. He spent 16 years at company level during which he commanded eight company-sized units. He has also commanded three infantry battalions. He is a military writer and lecturer who lives in Washington state and Australia.

Deep Operations

LIEUTENANT COLONEL FRANKLIN L. HAGENBECK
MAJOR CURTIS M. SCAPAROTTI

During the first week of REFORGER 90, the 1st Battalion, 87th Infantry, 10th Mountain Division (Light Infantry) was given the following mission: Conduct a 60-kilometer infiltration through mobile enemy forces, execute disruption operations against enemy combat support and combat service support elements, and, on order, exfiltrate to friendly lines.

Clearly, this was a doctrinally correct mission for a light infantry task force, but was it realistic and could it succeed? And assuming that the light task force could achieve positional advantage deep in the enemy's rear area, would the payoff be worth the high risk of losing the friendly force?

Infiltration operations were nothing new to these light fighters. Like most light infantry battalions, the 1st Battalion, 87th Infantry task force had participated in numerous staff exercises and divisional command post exercises with similar missions. Also, the battalion had had the good fortune to learn at the National Training Center (NTC) the previous summer that the successful execution of

infiltration, followed by attacks in the enemy's rear, is much more difficult to achieve on the ground than on a battleboard. These lessons bolstered the light leaders' confidence, however, and convinced them that deep operations could be even more successful in the strikingly different European environment for several reasons:

First, the foothills of the Bavarian Alps offer more cover and concealment and, unlike the California desert, allow soldiers to forage from the land, particularly for water. Squad movement, the norm in decentralized light operations, is not restricted to the night as it is in the desert. During the winter months in Europe, daylight movement can often be accomplished during the foggy conditions that exist almost every morning and every evening.

Second, when two opposing heavy corps square off, planners seldom pay much attention to the light forces or consider them in combat ratios; the odds in favor of their preservation therefore go up dramatically in the European environ-

ment. By contrast, at the NTC the opposing force (OPFOR) actively pursues light fighters during the reconnaissance and counter-reconnaissance battle and templates their moves during the main battle. The perceived tempo of the battle between the heavy forces in REFORGER 90 made it unlikely that the OPFOR would routinely wargame a light infantry threat in its rear areas.

The third point of promise concerned casualty evacuation, always a problem in deep operations. Light fighters know that their chances of surviving wounds in the desert are dismal if those wounds are sustained during daylight or at night in rugged terrain where evacuation helicopters cannot land. They believe that a clandestine recovery in Europe stands a much better chance of succeeding.

All of these precepts were validated during the first week of REFORGER 90: On the evening of 14 January, the task force began a truck movement to its area of operations in T1 (see map). It was to bury itself there while an armored cavalry squadron conducted covering force

operations the next day.

After the OPFOR's main elements had passed through the covering force area, the task force was to conduct disruption operations in AO EVEREST 1. The commander defined direct fire and indirect fire attacks by specifying day and night engagement criteria and target priority criteria.

In addition, the task force was given a contingency mission to conduct an infiltration across the Woernitz River (25 to 30 kilometers from T1) and to establish a disruption zone (DZ)—an area forward of the main battle area within which light infantry forces conduct direct fire and indirect fire attacks to disrupt enemy combat support (CS) and combat service support (CSS) forces.

Not surprisingly, while on its way to T1, the task force received a fragmentary order to conduct the contingency mission. It was diverted to AA EAGLE while the task force commander and his S-3 met with the brigade commander to receive his guidance.

Among other things, the brigade commander confirmed movement and assembly times, delineated fire coordination measures, and reconfirmed the attack criteria. His intent remained the same—to conduct indirect fire attacks against the enemy until the night of 16 January,

when direct fire attacks would be authorized.

The task force was to focus on enemy communications, command, control, and intelligence (C³I) facilities and CSS (primarily fuel tankers and Class V vehicles) elements. Since the enemy was on the attack, however, the task force's priority was to attack enemy CSS elements, because the disruption of Class III and V supplies would definitely hinder the timing of the enemy's follow-on attacks. C³I losses would hurt him, too, of course, but probably less than if he were in the defense trying to react to an attacking force.

Following the receipt of this guidance, the task force commander issued a fragmentary order with updated graphics to his subordinate commanders, and saw to it that troop leading procedures were conducted in AA EAGLE.

The corps commander authorized the light infantry to infiltrate into the buffer zone not earlier than 0300 on 15 January and to cross the international border at 0600.

At 0700 the OPFOR attacked across the border and the covering force battle began. By 1530 the lead elements of the task force were at the corps fire support coordination line (FSCL)—the Woernitz River—and were prepared to infiltrate to DZ SUMMIT at nightfall. Although the

enemy forces turned the north flank of the covering force, the armored cavalry squadron managed to maintain combat forces within the center and southern portions of AO EVEREST 1.

By 0600, 16 January, 21 of the 27 squads from the task force had reached AO JUDY and AO CINDY (a dispersal area short of DZ SUMMIT); the last six squads closed by nightfall. At 1030 the armored cavalry element withdrew to the south, ending the covering force fight in AO EVEREST 1.

The light infantry task force began its disruption operations the afternoon of 16 January with indirect attacks and intelligence reporting. Direct fire attacks were authorized and they began at 1830, while disruption operations continued for almost two more days, until 1530, 18 January.

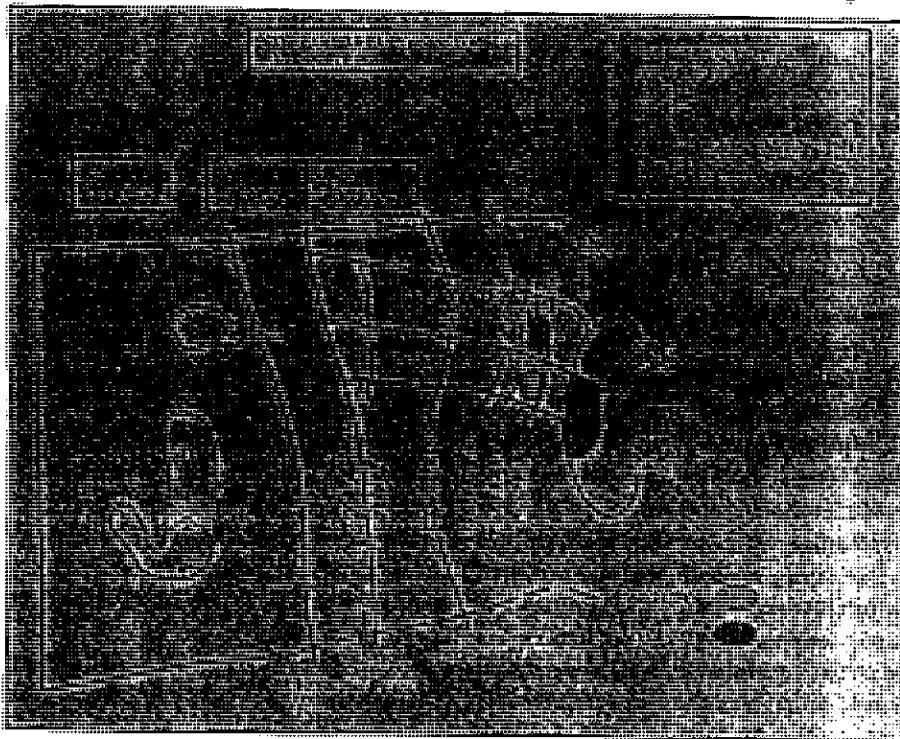
The task force began its exfiltration at 1700, 18 January, to link up with corps counterattack forces not later than 1000, 19 January. The task force soldiers linked up with trucks in AO EVEREST 1 and were extracted behind friendly lines.

The operations and the resulting battle damage assessment (BDA) during this mission validated the light fighters' belief that deep operations could be conducted successfully in a European environment.

The task force destroyed 16 command posts, 58 Class III vehicles or gasoline pods, 4 MLRSs (multiple launch rocket systems) and 11 other artillery systems, and one forward area refuel/resupply point. It lost one company during the mission.

Recognizing that a REFORGER exercise, like each of those at the NTC or elsewhere, is unique and has its own restraints and constraints, we must be careful in drawing conclusions. Acknowledging that risk, though, we offer the following points for consideration:

A simple plan, plus the leaders' understanding of the commander's intent, plus patience, equals success. Decentralized operations (squad level) are easy in concept, difficult in execution. Commanders at task force-level and higher must guard against trying to micromanage these operations. They must accept that there are some events they cannot control and may not even



know about until much later in the operation—perhaps not until the mission has been completed. Company commanders and platoon leaders cannot accomplish a mission with a snap of the fingers; they must give their squad leaders time to develop the situation.

The mobility of light fighters is a function of combat load, as well as terrain and climate. Nothing new here. Experienced NCOs can usually make the right call on what their soldiers should carry. Commanders should let them be a part of the decision-making process and then conduct pre-combat checks to see that they are complying.

Templating the enemy before the fight is a prerequisite to success in deep operations. Squad leaders need this framework, because they probably will not get any intelligence updates from higher levels.

Graphic control measures are critical. To improve command and control—and to reduce the possibility of friendly

casualties from small arms all the way up to BAI (battlefield air interdiction)—the graphics must be easily understood by everyone.

Combat service support is more manageable in Europe than in the desert. Logistical packages can be infiltrated by vehicle and air; water is available in both streams and villages; Classes III and V can be foraged, as can transportation (some soldiers were moved by local farmers inside hay wagons). On REFORGER 90 our squad leaders were given small amounts of local currency to simulate foraging or to use as a backup in the event of resupply shortages. This seemingly small step reduced the initial soldier's load (Class I) and allowed the squad leaders to cross the line of departure knowing they had an alternative way to take care of their soldiers.

During this exercise, the 1st Battalion, 87th Infantry task force, as well as several other battalions from the 10th Mountain Division (Light Infantry) proved that

deep infiltration is a realistic mission for light infantry. They generated intelligence, accurately adjusted indirect fires, and conducted limited direct attacks at night—each of which affected the enemy's morale and impeded his tempo of operations. In this way, the light forces complemented the friendly heavy forces, survived, and were available to fight in subsequent operations.

Lieutenant Colonel Franklin L. Hagenbeck commands the 1st Battalion, 87th Infantry. He served as a company commander in the 25th Infantry Division, a battalion S-3 in the 82d Airborne Division, and a tactics instructor in the Australian Infantry Center. A 1971 graduate of the United States Military Academy, he also holds master's degrees from Florida State University and Long Island University.

Major Curtis M. Scaparrotti is S-3 of the 1st Battalion, 87th Infantry. He commanded a company in the 82d Airborne Division and served as a tactical officer at the United States Military Academy. A 1978 graduate of the Academy, he holds a master's degree from the University of South Carolina.

The NTC

A Reserve Component View

MAJOR HOWARD L. HORTON

In June 1989 I had the rare opportunity to observe the performance of a large number of units operating in the Army's most realistic combat training environment, the National Training Center (NTC). As a National Guard officer participating in individual KPUP (Key Personnel Upgrade Program) training, I was assigned to the exercise management control center for the Operations Group during the rotation of two battalion task forces, their brigade headquarters, and a slice of combat and combat service support personnel of the First Cavalry Divi-

sion from Fort Hood, Texas. In addition, I helped supervise opposing force (OPFOR) activities in support of the rotation.

I became familiar with the duties of the shift positions and acted in those positions. I also became familiar with the operational plans and orders for the various battles, attended the briefings presented during my shift, and was prepared to brief as required by the shift leader.

My comments here are not intended to be a comprehensive discussion of tactical issues, simply a collection of impressions and opinions for future reference. These

comments relate primarily to DTOC operations, because that was the level of my primary focus at the NTC during my 18-day assignment.

My specific mission was to assist the operations section and to ensure that the training objectives of the rotational units were accomplished safely, in a tactically realistic environment, and in accordance with the published rules of engagement.

On one occasion, I rode with the chief of operations and plans to observe the performance of the Blue Force in a day-

light attack. I noted that the skillful execution of basic individual and small unit tasks is an absolute prerequisite for mission accomplishment. Small unit actions are not only the most important but also the most difficult to execute successfully, because it is at that level that individuals, weapons, and logistics are most affected by the unique terrain.

As a result, there are few absolute rules, only principles that are easy to understand on a chalkboard but tough to execute under the endless variety of METT-T (mission, enemy, terrain, troops, and time) conditions. At the NTC, most soldiers are exposed for the first time to the many elements of stress inherent in combat, yet it is the actions of soldiers and junior leaders at critical but mostly unpredictable locations that win or lose battles for a battalion task force. The dispersion of units and the pace of operations are typically such that senior leaders simply cannot supervise and control in detail even a minor portion of the critical action. Therefore, the small unit challenge is as much a matter of leadership and discipline as of training. A unit that does well only those things that the boss checks will have great difficulty at the NTC.

The longer I observed, the more impressed I became with both the importance and the difficulty of such basic infantry tasks as conducting attacks in rugged terrain; killing armor at close range; securing, constructing, and breaching obstacles; conducting reconnaissance and surveillance; and providing close-in protection for critical assets.

Time and time again, a few skilled infantrymen made the difference between winning and losing a battalion or brigade level battle. They provided the detailed intelligence that permitted accurate targeting and greatly increased the odds of successful maneuver. They breached the pivotal obstacle and destroyed the key weapon, unhinging the enemy's defense. They conducted a night attack that caused the enemy's armor to reposition, thereby facilitating its destruction by friendly tank and antitank fire at first light.

Almost without exception, there were many more infantry missions to be performed than there were infantrymen



available—particularly in a modernized task force. While priorities varied as a function of METT-T, there were seldom enough infantrymen to provide close-in protection for tactical operations centers, trains, air defense artillery positions, and tanks. Except in the most extreme situations, all of these elements had to provide their own security and insure their own camouflage, light and noise discipline, and movement and deception.

The NTC teaches combat doctrine in a straightforward way. The battles I witnessed were hard-fought. The action continued day and night in temperatures as high as 125 degrees Fahrenheit and as low as below freezing. The dirt, dust, tear gas, smoke, and merciless sun all contributed to the realism.

The "wounded" had to be evacuated, replacements provided, damaged vehicles removed, and new equipment requisitioned. Units that failed to bring up ammunition did without it. If the food was lost, everyone went hungry. The soldiers who misplaced their gas masks suffered from simulated chemical attacks.

On another occasion I spent two days in the desert with the opposing force and had an opportunity to attend its operations

order briefings, to ride with the OPFOR as an observer from an M-72 tank (a modified U.S. Sheridan), and to attend the after action review conducted in the field.

Since the OPFOR uses Soviet doctrine, this experience confirmed for me that the Soviets react quickly to isolate and attack the weakest link in their enemy's defense system. The OPFOR, to isolate the enemy position, uses terrain and scouts to avoid the enemy's fire and to exploit gaps in his defense; uses smoke to cover its own rapid movement; employs artillery, mortars, mines, and smoke well forward to suppress the defender's fires; and attacks adjacent positions by direct fire and movement.

In recognition of the high quality training conducted at the NTC, the Army has added the U.S. Army Forces Command (FORSCOM) leader training program to NTC rotations. This program was developed for brigade and battalion commanders and selected staff officers from Active Army and Reserve Component divisions and brigades, including the Active Army units overseas.

A direct result of the FORSCOM leader training program at the NTC, and a

by-product of the visiting units' experience there, is the improvement of tactical skills in the Army's officer and noncommissioned officer leaders.

The NTC gives a battalion task force commander an unequalled opportunity to exercise the full range of his force in conditions that closely approach those of actual combat. The harsh terrain and climate serve to intensify the stress and fatigue for both men and materiel.

No other training exercise approaches the realism that is routinely achieved at the NTC, and no other training presents the combination of scope, scale, and intensity of effort that is captured there. The NTC's instrumented, one-of-a-kind battlefield provides instant feedback and

increases learning at all levels. Soldiers, leaders, and units train, learn, and improve their fighting skills without actually suffering casualties or losing equipment. They do not just go through the motions of war; they actually live them.

As a result, commanders train as they will fight. Soldiers learn the limits of men's minds and bodies and the durability of their equipment. They also learn not to repeat their mistakes. From each learning experience, a task force grows in competence and confidence. At the end of its 14-day combat cycle, a better task force emerges—not perfect, but harder, tougher, and smarter.

To win the next war, the Army must eliminate during training the mistakes

that inexperienced soldiers and leaders make in combat. War is not the place to learn from mistakes. The learning environment at the NTC is designed to provide such learning experiences and to help the Army win tomorrow's key battles. Most important, the NTC is a place where a soldier or leader can make a mistake, learn from it, and still survive.

Major Howard L. Horton is assistant inspector general of the 49th Armored Division, Texas Army National Guard. He was commissioned in 1968 from the Officer Candidate School at Fort Benning and served in Vietnam as an infantry platoon leader with the 101st Airborne Division. He holds a master's degree from Southwest Texas State University.

Family Support Program

LIEUTENANT COLONEL MARSHALL L. HELENA

Many of the Army's units have to be prepared to go to war within 18 hours, and others have to be ready to deploy on short notice to support disaster relief operations. When that happens, many of the soldiers in these units leave behind family members who have difficulty fending for themselves.

Some of the junior soldiers' wives, in particular, may never have experienced Army life or had to manage on their own. To some of them, the mysteries of repairing the car, balancing the checkbook, paying the rent, or going to the hospital may seem monumental. And if a soldier's wife writes to him and burdens him with the problems back home, his morale drops and his stress and frustration increase. Then his concentration is split between his family situation and the combat or training mission, and the results can be fatal, both in combat and in training. Back home, too, the consequences are sometimes tragic.

A good battalion family support program designed to resolve family fears, concerns, and crises can help prevent these problems. Such a program contains several elements:

Telephone Tree. Each company commander must establish and maintain an up-to-date wives' telephone tree (sometimes called a "chain of concern") with the wives' names, addresses, and telephone numbers. When the troops deploy, this gives the battalion an internal method of notifying all the families of the reason for the deployment, where the unit is going (if possible), its anticipated return date, and the schedule of information briefings. The notification sequence also works in reverse, enabling wives to communicate their problems to whatever level may be necessary to get help in solving them.

The rear detachment commander must have copies of each telephone tree. Maintaining such a roster is not easy, with

families constantly arriving and departing, but it is the keystone of the program.

The notification process should be rehearsed, especially before the unit assumes an alert status, much the same way battalion and company alert rosters are rehearsed. In fact, these rehearsals should be required by the task force standing operating procedures (SOPs). From these rehearsals, the wives will gain more confidence in the system, and the telephone numbers can be corrected at the same time.

Routine Activities. If activities for wives and children are routinely organized and conducted, a greater sense of kinship can be developed, and a soldier's family members will feel that they are part of his work.

Meetings to put out important information can often be combined with holiday parties, picnics, all ranks balls, and unit sports days. Some units treat the wives

to tours of training facilities, trips to the field to observe their husbands' training, or a night in the field with sleeping bags and MREs. One airborne battalion conducted a "Jane Wayne Day," which included weapon demonstrations, airplane walk-throughs, equipment displays, and a picnic. The wives even jumped from the 34-foot tower. (Safety and risk management, obviously, had to be a primary consideration.) Each wife received a picture as she left and a certificate signed by the battalion commander.

Whatever the activity, the purpose is to generate trust among the wives, to increase their familiarity with the chain of command, and to make it easier for them to share problems and get help when they need it.

FSP Newsletter. Uninformed wives, just like uninformed soldiers, get to feeling they aren't important. A monthly newsletter with information from each company—promotions, awards, schools, graduations, departures, arrivals, weddings, births, announcements of upcoming activities—will help. (There are procedures for having the government pay for such mailings.)

Getting people to contribute material for the newsletter can be a problem, at least initially, and will require command emphasis. To ensure that the editor receives good material, the battalion and company commanders must get personally involved. If one of the wives volunteers as editor, she will have enough problems without having to "crack the whip" if input is late or of poor quality. Finally, a column or comments written by the battalion commander and his wife can be useful.

Most people like to see their names in print, and the newsletter gives them that opportunity. It helps the wives build personal pride in themselves, as well as pride in their husbands and the battalion.

MARS Communications. A unit that is deploying to a location outside the continental United States, or to a distant point within it, can set up a Military Affiliated Radio Station (MARS) patch between the unit and home station. This enables husbands and wives to talk to each other at regularly scheduled times.

Family Visitation Program. A visi-

tation program that requires the company commander or platoon leader, along with the chaplain, to visit each new family in its quarters within one week after they move in gets everyone off on the right foot from the beginning. It clearly shows that the Army and the unit's leaders care.

The visitors should carry with them the latest unit wives alert roster, the latest family support newsletter, and a welcome letter from the battalion commander. The family will learn about alert procedures, where to get help and the like. At the same time, the leaders can learn of any special needs the family may have—a handicapped child, for example, or a wife who doesn't speak English.

Family Support Program Briefing. Before assuming mission cycle, division ready force, or his unit's equivalent, the battalion commander should conduct a battalion-level family support program briefing. To promote attendance, the battalion might release a married soldier for the day if his wife attends; if she cannot, the soldier should attend. That way, almost every family will get the word. Nursery service should be provided, along with refreshments.

The briefing should include an introduction by the battalion commander followed by staff briefings—the six-month training calendar by the S-3 (and the dates when the soldiers will be home), world "hot-spots" by the S-2, family medical care by the physician's assistant, legal topics by a staff judge advocate representative, and Army Community Service (ACS) topics including interpreter assistance for foreign-born wives, chaplain's activities, guidance for dealing with the news media, and alert notification procedures.

Following the battalion-level briefing, those attending should break into company groups so the company commanders can conduct their own briefings. Hand-out material should include alert rosters, family support newsletters, ACS information, and the six-month training calendars.

These briefings should be conducted twice—first in the early afternoon while children are in school, and again in the early evening for wives who work outside the home during the day.

The program should also consider the soldiers' fiancées and girl friends. Many soldiers have arrangements for these friends to pay their bills, collect their mail, or keep their cars in the event of deployment. In these cases, powers of attorney may be in order, and these women may also need to be on the telephone rosters.

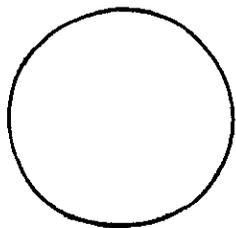
Just as in combat, redundancy in communication is crucial to the success of a family support program. For example, in advertising the battalion-level briefings before a mission cycle, the unit should certainly hand out flyers for the husbands to take home. But it should also put the information in the family support newsletter, advertise it at troop pay-day formations, and put it out through the telephone tree. With all of these channels working, the information will get to the wives.

In disseminating the telephone trees themselves, the unit should send them home by the husbands and also hand them out at the battalion-level briefing and at unit family parties. The same applies to newsletters.

Finally, but most important, command emphasis is needed all the way down to platoon and squad level. At the top, the battalion commander has to be active and aggressive in selling this program to the families, and must convince them of his personal sincerity and commitment. In his remarks at hail-and-farewell gatherings, promotion and awards ceremonies, reviews, changes of command, family support briefings, or parties, he must send a consistent message that the families are as much a part of the battalion as the soldiers.

A sound, effective family support program is a 24-hour-a-day operation. With strong leader emphasis at all levels and trust by the spouses, it can also be a combat multiplier. For both reasons, the program is worth doing right.

Lieutenant Colonel Marshall L. Helena is assigned to the Center for Army Lessons Learned at Fort Leavenworth. He previously commanded the 4th Battalion, 325th Airborne Infantry. He is a 1970 graduate of The Citadel and holds a master's degree from Central Michigan University. He has been selected for promotion and to attend the Army War College this year.



DESERT NAVIGATION

MAJOR RICHARD G. REYNOLDS

Over the past few years, there has been a great deal of discussion in United States military circles concerning strategic mobility and the Middle East. Although plans have been made that show how U.S. forces can be moved to that region, little has been said about tactical mobility or the complexities of movement that will confront a unit once it gets there. (See the three-part desert series in *INFANTRY*, July-August 1981, pages 16-20; September-October 1981, pages 27-32; and November-December 1981, pages 22-27.)

The Arabs have a word (*ma mah*) that describes a land in which one wanders from the right road. In modern warfare, however, tactical mobility implies staying on the "right road." That may not be easy in the Arab world, because to a U.S. soldier that world remains largely unknown.

In the past, regional exercises for U.S. forces were held near major cities and facilities, but conducting such exercises differs greatly from undertaking tactical operations across the extensive land masses of the Middle East or North Africa. And despite the training of the kind that is conducted at such places as the National Training Center, Dugway Proving Ground, Fort Bliss, and Yakima Firing Center, most U.S. soldiers have never been exposed to a desert at all, much less to one as large and diverse as those in the Arab world.

Before your unit undertakes any kind of operation in that region, there are several things that you need to know about it and about how to stay on "the right road."

First, the region is large. The Sahara (*sahara* is the Arab word for desert) measures 3,200 miles from north to south.

The land area of this desert alone is between 3.25 and 3.5 million square miles (or 90 to 95 percent of the size of our 50 states). When the deserts of the Arabian peninsula and Iran (more than 2 million square miles) are added, the area of desert terrain totals nearly 5.5 million square miles.

A traveler in this region often must cross expanses that are devoid of life, water, and fuel. The analogy that compares the desert to a sea has merit. Indeed, the Arab word *hawmah* can mean either high seas or an open area of sand, and population centers in the desert are described as either "ports" or "islands" on a vast parched sea.

In some areas there are few "ports," and missing a fuel or water point can prove fatal. In the two million square miles of the central Sahara, for example, there are virtually no paved roads and only a score of "islands." Although the expanse of desert makes the "islands" difficult to find, the environment makes finding them imperative.

One of the biggest problems in trying to navigate in the desert is that reliable maps are difficult to find. From the 9th to the 12th centuries, the Arabs were the cartographers of the world; then their pre-eminence declined. While great progress has been made recently in mapping the Arab world, for vast sections there are still no adequate military map products on a scale smaller than 1:500,000. The maps that are available are often geological or archaeological surveys (1:1,000,000 scale or larger), local planning documents compiled by development agencies or contractors, road maps put out by tire and oil companies, or tourist maps. Complete map coverage

of some regions is available only in 1:1,000,000 or 1:500,000 scale.

The few maps that are available may be outdated, especially military maps. In the region, road-building and urbanization proceed much faster than the updating of the maps. The paved roads, with few exceptions, were all laid after World War II. And the principal roads of many countries date from the 1960-1970 period, while their military maps were surveyed decades earlier. Fortunately, though, the paving was often laid over tracks and, in some cases, over old Roman roads that had already been mapped. The King's Highway in Jordan, for instance, was in use before the days of the Biblical exodus but was not completely paved until 1955.

Another problem is that some of the roads that do appear on maps may not really exist. For example, the president of Algeria once gave his engineers a few supplies and a short time to build a road to the southern border through Tamanrasset. Given the restrictions, the engineers resorted to laying asphalt over an unprepared base of rocks, bushes, and sand dunes, then finally just sprayed oil or tar along the rest of the route. When the president flew overhead, he believed that the road existed, and so apparently did many map makers. Soon, virtually no physical evidence of the charade remained but the "paved" road is still clearly marked on numerous maps. Other roads that were completely destroyed during the French withdrawal from Africa also still appear on older maps.

There are problems even with U.S. operational maps of the area. For unknown technical (or political) reasons, many of these maps are mostly blank sheets that show a sharply defined "limit of mapping."

GRID SYSTEMS DIFFER

In addition, the grid system on some maps differs from the UTM (universal transverse mercator) grid system on U.S. maps. In many of the Middle East countries that were previously under British influence, for example, the Palestine grid system is used on the military maps. These maps, generally last surveyed during World War II or the following decade, are widely used, not only in the area of Palestine but also in Egypt and much of Arabia. And since they are commonly produced in either 1:100,000 or 1:500,000 scale, they do not mesh with standard U.S. maps.

The Palestine grid system uses three-digit zone designators that are read right and up. As a result, an eight-digit grid location is accurate only to 100 meters instead of 10 meters as it would be for a U.S. map. (Some of these British maps, however, do include tribal designations that can be useful.)

Military maps of North Africa are generally reprints of previous French surveys and are annotated in French and Arabic. They date from the French colonial period, and the most detailed ones were compiled at the time of the Algerian war. (Almost all maps of Algeria are considered classified by the current government.)

Some Tunisian maps from the French era were printed in

segments and glued to a linen fabric to allow for easy and frequent folding. These maps tend to be inaccurate, though, because the linen has stretched or become deformed, and some segments may have been glued imprecisely or may even have become detached.

In North Africa, Michelin road maps are valuable because of their accurate depiction of current routes and also of well locations and water depths. (If you must use one of these wells, it is nice to know its depth so you can carry a rope of the appropriate length to draw water.)

Throughout the region, maps that depict the surface material (sand, lava, mudflat, or flintbeds) are generally more important than those that show the relief, because the surface material is usually the deciding factor in mobility. The exceptions are the mountain regions of Arabia, Persia, and the Atlas and Hoggar ranges in North Africa where relief considerations are most important. In those regions, the preferred maps are those that accurately depict current roads, tracks, and passes.

ORIENT MAP

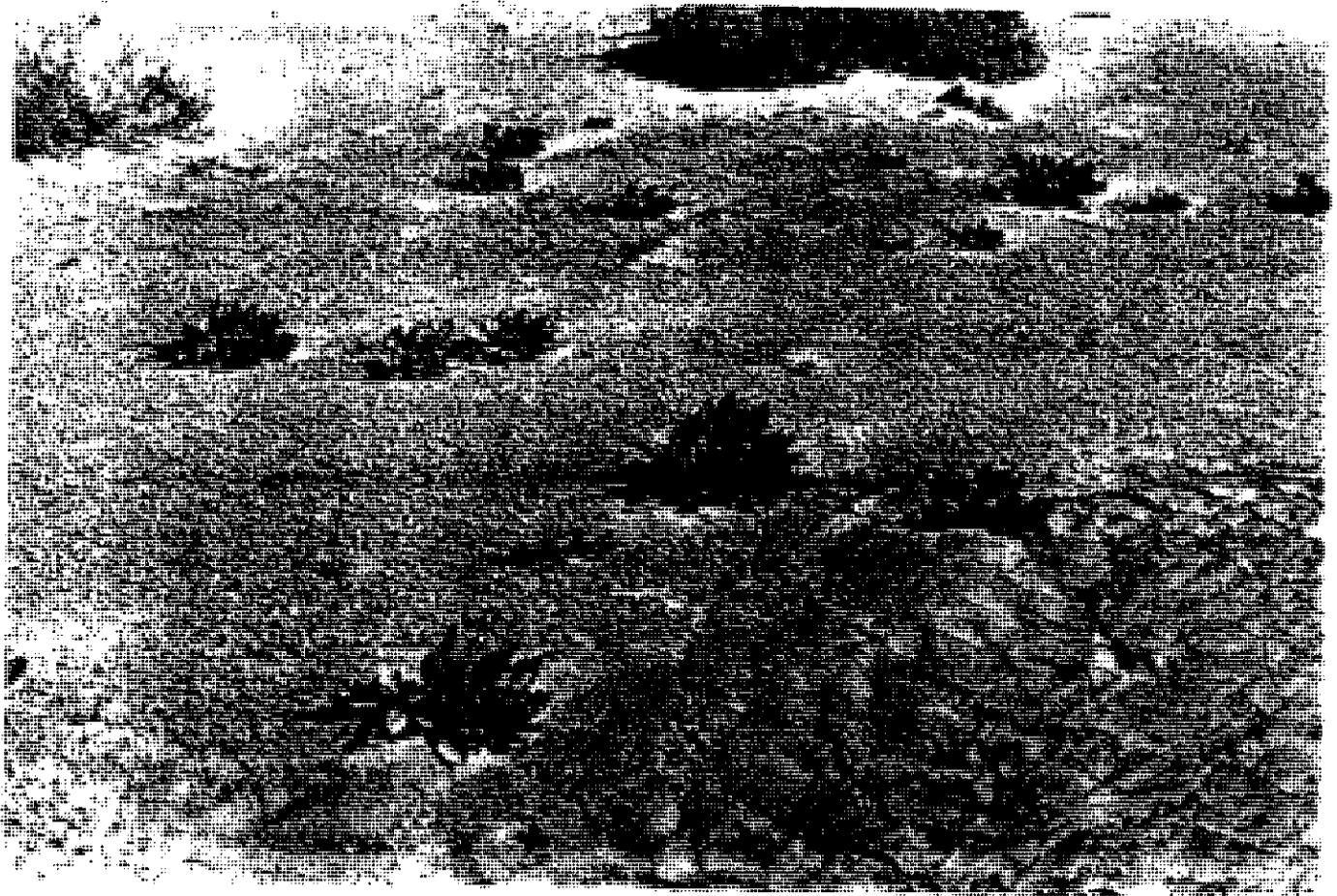
Once you have obtained the best available map, orienting it to the terrain can be a real challenge. Large areas of the region are virtually flat with no distinguishing manmade or natural terrain features, or even vegetation. Under these conditions, locating positions through intersection or resection is virtually impossible.

The map sheets for these areas are often nearly blank (except for the grid lines). They show no contour lines and are marked only with "indefinite wadis" (valleys or stream beds) that at first glance may not be apparent on the ground. The terrain is uniformly flat with no variations in elevation of more than a few inches. It may be half a day's journey to the nearest major terrain feature.

In such a situation, vegetation is the key to successful navigation. Few areas are totally devoid of plant life, although the plants may not be readily apparent. In fact, only dead plants may be detectable. In flat terrain, vegetation grows in depressions, even in shallow ones only inches lower than the surrounding area.

How, then, do you establish your unit's location? First, orient the map to north using a compass. Then choose a compass route that is perpendicular to any series of intermittent streams or indefinite wadis shown on the map. Follow the bearing until you encounter the first patch of vegetation. As you continue, compare measured distances between the bisected patches of vegetation until you are confident that you have identified a particular "indefinite wadi." Then travel parallel to it to a terminal point. You should now have located a known point on both the map and the terrain. Mark the spot and then verify it by traveling to another wadi terminal point. This technique will usually allow you to locate your position within a kilometer.

In a sand sea, however, this type of orientation is generally impossible. Although vegetation exists there, too, it grows



Desert vegetation.

without regard to elevation. In fact, it is more prevalent on the tops and sides of dunes than in the low areas. There are two reasons for this — the plants at the base are usually the first to be buried by the shifting sand, and the birds and camels responsible for dispersing the seeds tend to rest at the tops of the dunes where they can see better.

In North Africa, you will find tree lines that are visible from a distance, and these almost always correspond to an older principal road. The French planted millions of eucalyptus trees to shade their roads, which generally date back to the same era as the military maps. Thus, a road with trees or stumps along it is more likely to be the principal road shown on an older map than is a wider or newer route. In Arabia, however, roadside plantings (such as the one between Abu Dhabi and Al Ain) are windbreaks and therefore have several rows of trees, and shrubs as well, instead of the single row of trees common in North Africa.

Navigating is difficult on a mudflat (or *qa*) because of its total lack of terrain features, vegetation, or relief. Sometimes, though, it is useful to know the distance to the visible horizon. This distance varies with the height of the observer, and it is easy to compute. Standing on the surface, you can find the distance to the horizon in nautical miles by multiplying your height in feet by $3/2$ and taking the square root of the product. If you are six feet tall, for example— $6 \times 3 = 18$;

$18 \div 2 = 9$; and the square root of 9 is 3. The distance to the horizon, then, is 3 nautical miles.

Since a nautical mile equals 1.852 kilometers, a man of average height standing on a mudflat can see about 5.5 kilometers. By standing on the roof of most commercial four-wheel drive vehicles, he can extend this range of observation to between 7 and 8 kilometers. (Observing from this greater height will also help defeat the effects of mirages.)

A simple sextant is useful in ascertaining locations in flat areas and may be necessary to find a given point in the sands. The alternative may be to travel a great distance to find some terrain features.

Satellite navigation systems (such as LORAN or NAVSTAR) or other specialized systems (such as the Litton point positioning system) are useful, but all such technical means require considerable support and training and their effectiveness is easily reduced by the harsh desert environment.

Even in the sands, though, you may be able to orient yourself generally without constantly referring to a map and compass. Sand dunes are like large wind-generated waves, with a gentle tail on the windward side and a steep pitch to the summit on the leeward side, and they tend to form into long "mountain ranges" or a series of horseshoe-shaped crescents. Between the ranges are troughs or valleys that usually run at right angles to the prevailing winds. A compass check will allow

you to orient the ranges and the valleys. In some of the large sand sea areas, such as the Empty Quarter in Saudi Arabia, the ranges are often scores of miles long, and the distance between the crests and the valleys is fairly uniform. Once you have determined the interval, you can count crests to compute travel distances when bisecting the ranges. In sand, this method is generally more accurate than odometer readings.

In the absence of identifiable terrain features, the bedouin people can generally give you the bearing toward Mecca, often with compass-like accuracy. (Their directions to other cities may be a little suspect.) They may not be able to orient you on the map and may not always be precise about directions and distances, but they can generally tell you the names of even distant wadis and mountains. (Sometimes, to prevent loss of face, a bedouin may give you a fabricated answer because he is unwilling to admit he doesn't know a direction or location. But he will also go great distances out of his way to guide you to your destination, or to a well or other known point.) And even a bedouin uses a guide to cross an unfamiliar area.

In addition, every mosque has a surveyed *mihrab*, a marker or niche that indicates the direction to Mecca. On hilltops, you will often find a *mihrab* marked with stones. Although the rock piles you sometimes see on hilltops are often grave markers, you may find a *mihrab* among the graves. The farther these markers are from Mecca, the less precise they are,

but they are always a useful navigational indicator.

Maps are often marked with existing trails or tracks that can be useful. These may be traditional routes such as the frankincense trail, which dates back thousands of years, or they may be Roman roads as found throughout North Africa, Palestine, and TransJordan.

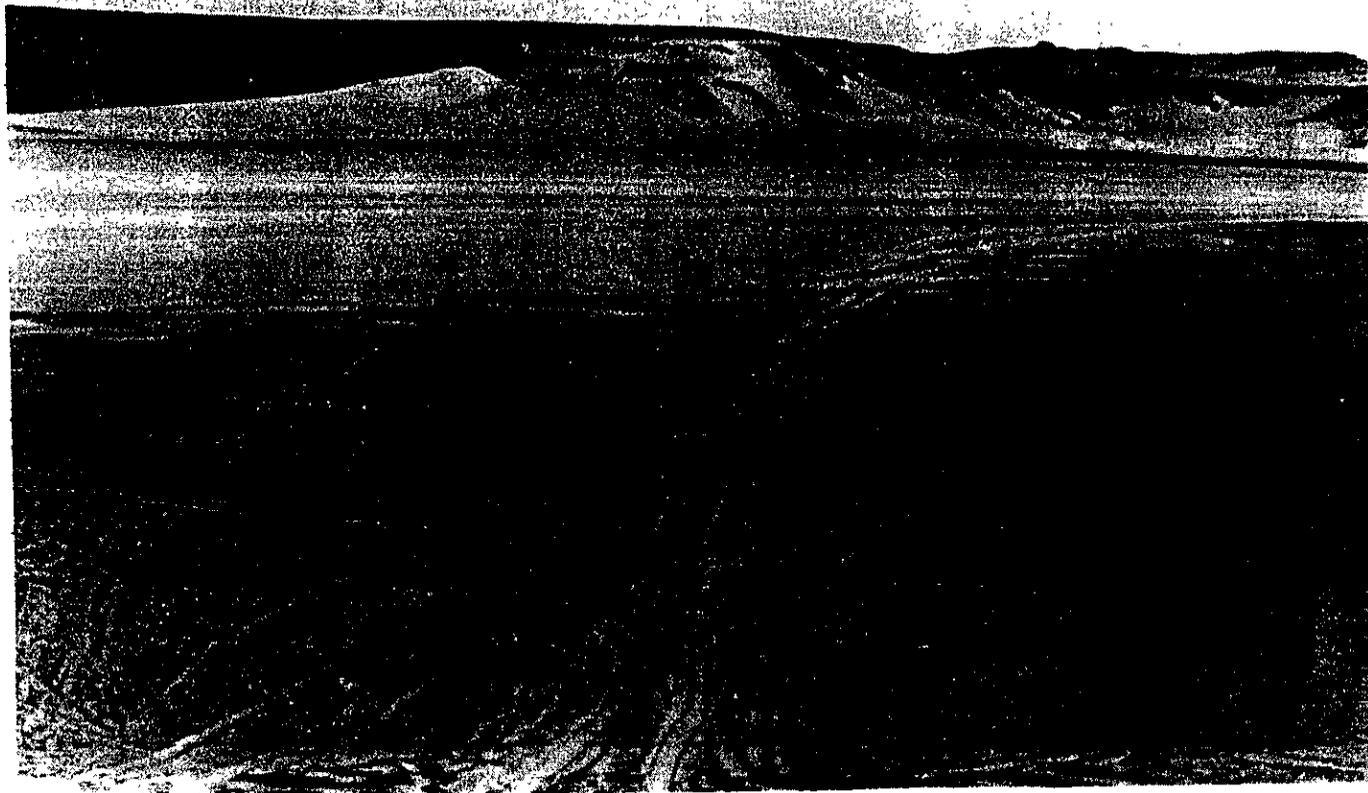
Although these traditional routes and more recent ones are usually shown as a single line on maps, on the ground you may find scores or hundreds of vehicle tracks. Which is the correct one? Perhaps all of them. Desert travelers like to keep their distance from strangers, and vehicles traveling together often run abreast to avoid the dust. For these reasons, the tracks may fan out in a broad valley and then converge again into a single route when crossing into another valley or wadi. But you must constantly verify your location by any terrain features that may be around.

People die every year when they confidently follow a track that has bypassed the well or fuel point that was their destination. Vehicle tracks remain visible in some areas for scores of years, and routes to principal cities and oases are now crisscrossed with them. Although you will find these tracks useful at times, never follow them blindly.

Other phenomena that you may encounter are piles of stones that form what appears to be a chain of route markers, called *rujim*. These are not the product of someone who was mark-



Rujim mark path across a basalt field.



Desert track.

ing the way for a fellow traveler but of hundreds of years of religious or superstitious effort. As Arabs travel, they often make rock piles at every stop, perhaps to commemorate a prayer said, a meal eaten, or a night passed. Time and a multiplicity of travelers over common routes have thus produced what amounts to a series of route markers. Once again, though, do not follow them heedlessly, as the route may eventually cross sands or flats where there are no rocks, and the route markings will end.

Animal tracks are also unreliable in leading you to wells or springs. Wild animals mostly live off moisture in vegetation and avoid men and their built-up areas. And although camels are almost never wild, they can wander unsupervised scores of miles from their owner's tent or a water point. Besides, camel paths and their signs may be many years old and may lead you to a water point that has long since dried up.

Since the advent of water trucks, you may find goats and sheep many miles from wells or springs. Unlike camels, though, these animals are always accompanied by a usually unseen bedouin.

In much of the Middle East and the desert area of North Africa, the weather is fairly constant most times of the year, and this consistency can help you navigate. An invariable wind direction, for example, produces constant dune patterns that you can recognize and use. But such a wind can also cause problems with visibility.

In 1983, for example, the leader of the rugged Paris-Dakar rally drove for more than an hour in a direction opposite the correct course, and scores of other drivers followed him. Despite on-board compasses and other navigation aids, he was relying on "solar" orientation during mid-day in an area of perpetual wind-generated dust and haze.

Under this kind of obscurity, indistinct shadows conceal the sun's true position. Navigation is difficult because the wind-induced haze makes distant objects difficult to observe. In these conditions, intersection techniques may be of little value, or they may require long delays while you wait for a break or a clearing in the dust.

A sun compass is sometimes useful in navigation if you have one. Of course, since it depends on sunlight to produce a shadow, hazy or overcast skies can make its use impossible. And even under the best of conditions, you have to use it continuously after leaving a known start point and take careful notes as you go along, especially in the sands.

Airborne dust may obscure the sun and make readings from a sextant impossible, and oblique observation from aircraft or from mountains may be equally difficult. Because this condition is nearly always present in many desert areas, dead reckoning with a compass is often the only way to navigate.

Dust storms can be violent and can last for days. Such storms as a *khamaseen* (defined as a dry, dust-laden wind that supposedly lasts for 50 days) can create or move dunes, cover

roads and tracks, and obscure terrain features.

In clear weather, mirages that may appear can also complicate navigation. Mirages are caused by sunlight reflecting off layers of air of varying densities. They can actually be mistaken for water on a *qa* in Arabia or a *chott* (a salt-crusted mudflat) in North Africa. Generally, however, mirages are a nuisance to navigation only because they hide or invert distant objects. They can also conceal the horizon and make a sextant less precise. Or they may cause you to deviate from your course to verify the location or appearance of terrain features. Mirages occur in all kinds of terrain and on very cold days.

Cold weather itself is a factor in navigation. (Many people do not realize that the desert can be cold because of the lack of cloud cover and the resultant solar heat loss.) One effect of cold weather is that cold days are usually clear, and the clarity and increased density of the air makes objects appear closer than they are. In these conditions, if you need accuracy, navigational measurement, as opposed to an estimate, is important.

Another misconception is that the desert is always dry. While there are areas of the world's deserts where it rains only once each generation, this is not the rule. Often deserts are deserts because the soil cannot retain the seasonal moisture that does fall. Some areas may be absolutely dry most of the time and literally inundated for brief periods.

Seasonal rains can seriously reduce trafficability in regions where the surface material is clay instead of sand or stone, and clay soil is common in much of the region. In rocky or mountainous territory, flash floods can fill wadis. The flooded areas then become obstacles to travel, and they can also affect land navigation by changing the wadis' features and washing out marked roads or tracks. Fog, which is common during winter months, can be disorienting in lava beds or on a mudflat.

Because of these various difficulties with weather, terrain, and maps, navigating in the desert is never easy. But it will help if the Army begins to emphasize the tactical navigation peculiarities of desert operations both in training and in the procurement of equipment.

To keep a cadre with the necessary expertise, the Army

should continue to fund and encourage remote desert travel by foreign area officers. These officers can help explain to commanders the cultural, geographical, and climatological factors that make navigation in the region so difficult, but more effort is needed to convey their experience to the user level.

Action should be taken to institute practical desert navigation classes at the National Training Center and in the desert phase of the Ranger Course. Other schools of the U.S. Army Training and Doctrine Command should certainly address the issue by producing appropriate texts and visual materials.

Simplified sextants and sun compasses should be procured for the Active Army and Reserve Component units that are earmarked for wartime deployment to this region. Training on their use and on dead reckoning techniques should be emphasized for all soldiers in scout platoons, CEWI (combat electronic warfare and intelligence) units, reconnaissance units, aviation and cavalry squadrons, special operations forces, as well as armor and mechanized infantry unit leaders.

Efforts should be made to update and expand military map coverage of the region. Large scale maps of urban areas need special attention. Much of the data is available. And adequate maps must be produced for areas where there are none.

The deserts of the Middle East and North Africa are indeed large and intimidating, and present certain difficulties with navigating. While these difficulties should not be overemphasized, they should be treated with realistic respect because of the dangers that can result from failure to navigate accurately. Inescapably, since the desert areas of the world are increasing, we must recognize that these problems will not go away.

Hopefully, the information presented here will help U.S. soldiers if they should ever need to find the "right road" in the Middle East or North Africa.

Major Richard G. Reynolds is a foreign area officer who has lived and travelled extensively in the Arab world. He recently completed a tour as a Middle East analyst in Washington, D.C., and is now attending the Command and General Staff Course at Fort Leavenworth. He previously served as the Army training officer for the Military Assistance Program-Jordan and served tours with both the 3d and the 9th Infantry Divisions. He is a graduate of Brigham Young University and holds a master's degree from Boston University.





DETERRENT PATROLLING

LIEUTENANT COLONEL KARL W. EIKENBERRY

The U.S. Army units that are deployed overseas serve two purposes: to discourage aggression by displaying the United States' intent to fight and, if deterrence fails, to work with host nations and allied forces to deny an enemy his objectives.

If these forward deployed units are substantially reduced during the 1990s, which seems likely, the reinforcing units based in the continental United States will have to fill the void. Since implied in their commitment to a theater is the possibility that deterrence may not succeed, these reinforcing units have traditionally focused their training on warfighting. If they are to prepare intelligently for the future, however, they must now incorporate more deterrence operations into their mission essential task lists (METLs). The recent increase in the emphasis on low intensity conflict strengthens this requirement.

Deterrent operations pose unique challenges to commanders and their units. In most combat actions, it is axiomatic that a leader should try to apply overwhelming force and firepower to defeat his opponent. During deterrent operations, however, he has to balance the military requirement to protect his unit with the political need to avoid responses that could be seen as acts of aggression or that could *escalate* hostilities.

Moreover, those who pose a threat, which can range from host nation demonstrators to elite special operations forces, inherently retain the initiative. Deterrent operations are usually conducted in international boundary regions, and—effective host nation police and military support notwithstanding—these areas are often volatile, are populated with disaffected minority or ethnic groups, and are easy to infiltrate.

Consequently, an enemy working in a border area will most likely be able to create incidents at times and locations of his own choosing. He can also seek to structure situations that will perplex deterrent operations forces and elicit inappropriate tactical responses from them. And in a tense political-military environment, a patrol leader who inflicts unnecessary civilian casualties in neutralizing a sniper, for example, fails to accomplish his mission as surely as one who allows his unit to be overwhelmed by an enemy ambush.

The experience of the 3d Battalion, 325th Infantry (Airborne Battalion Combat Team) serving as part of the land component of the NATO Allied Command Europe Mobile Force—AMF(L)—illustrates some of the problems non-mechanized infantry units face in conducting deterrent operations and also suggests some possible solutions to those problems.

The AMF(L) is a multinational force prepared to deploy rapidly from home bases in Europe and assemble on NATO's northern or southern flanks to demonstrate allied resolve to defend a host nation's sovereignty. The initial and primary mission of this brigade-size force is deterrence.

When they deploy to a contingency area, the 3d Battalion and its sister combat battalions in the force each establish a base camp for one company team (known as the "Key Company") near a threatened border region. Depending upon the particular contingency area and the support agreements with the host nation, the base camps can range from already existing army installations to austere remote sites that require considerable logistic support. Although host nation units furnish external security for the camps, each company is respon-

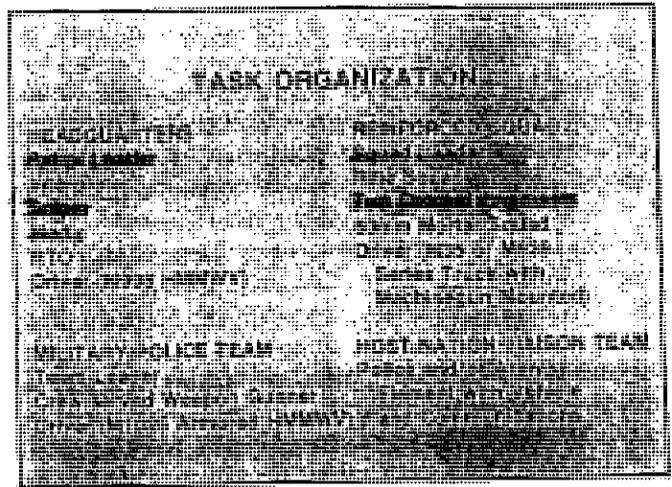
sible for providing its own internal security.

The Key Companies, which are assigned broad sectors along a border, conduct highly visible reinforced squad-size motorized patrols to make NATO's presence and determination known to a potential aggressor as well as to the local populace.

The patrol routes and schedules (generally during daylight hours) for each Key Company are directed by the AMF(L) commander. Host nations, upon request, are prepared to provide the companies with army and police liaison personnel as well as interpreters.

On the basis of the political and military situation, the Supreme Allied Commander Europe stipulates precise rules of engagement that will help AMF(L) units respond adequately to acts of aggression while still limiting the possibility that a particular incident will trigger a general war.

Given the dual requirement for a leader to protect his force and also strictly adhere to the rules of engagement, the 3d Battalion task organizes its motorized patrols to give small units the flexibility to respond appropriately. (One such task organization is shown in the accompanying box.) A deterrent operations patrol so organized can effectively react to various hostile enemy actions.



The Military Police team leads the patrols. Since its members are trained to exercise minimal force and skilled at dealing with civil disorder, they are well suited to confront host nation provocateurs. And the armored HMMWVs (high mobility multipurpose wheeled vehicles) with mounted machinegun are probably the best point vehicles a nonmechanized infantry patrol can have.

The headquarters section provides command and control, with a platoon leader, a platoon sergeant, or a weapon squad leader serving as patrol leader. The sniper assigned to the section is immediately available to provide counter-sniper fire or to act in sensitive situations where there is a risk of injuring noncombatants.

The reinforced squad is a rifle squad augmented with two combat engineers and a 60mm mortar squad. The engineers' mission is to counter the demolitions and booby traps that an enemy is likely to use against deterrent patrols and host nation forces. They are also invaluable in conducting route reconnaissance—an important task if a unit must prepare for a

possible rapid transition to war. The mortar squad enables a patrol to suppress the enemy immediately and to use smoke against far ambushes and long range snipers.

A host nation liaison team is assigned to each patrol whenever possible, because encounters with indigenous personnel are best handled by members of the host nation's own police or army. Its presence is also invaluable because the members of the team will know about the terrain, the population, the logistic infrastructure, and the communication resources in the area of operations.

If the patrols are to be molded into effective organizations, it is imperative that the deterrent operations force and the host nation liaison team or its headquarters establish a close working relationship at the lowest possible organizational level.

An intelligence preparation of the battlefield (IPB) for deterrent operations is difficult for several reasons: The threat is usually complex; routine reporting channels and procedures may be absent (for example, how does a deterrent force acquire pertinent information that has been reported to a local police station inside its area of operations?); and the patrolling sector may be larger than that normally assigned to a non-mechanized infantry unit.

IDENTIFY AGENCIES

After establishing the intelligence requirements for its deterrent patrolling mission, the 3d Battalion, 325th Infantry identifies all of the agencies that might help with intelligence collection. These include U.S. armed forces assets as well as the host nation's armed forces, paramilitary units, police, customs and immigration officials, and maritime patrols for operations along coastal waterways. Because of resource constraints, these organizations may not be able to participate in the battalion's field training exercises, but they should be involved in command post exercises, if at all possible, or at the very least in contingency planning.

Obviously, efforts to coordinate the activities of such disparate sources must begin with the unified command. The objective of all commanders, however, must be to allow for the rapid transfer of intelligence information at the tactical level. They must emphasize the exchange of liaison personnel and the establishment of communications channels and forums. When operating with allied battalions on its flanks, the 3d Battalion dispatches liaison personnel and establishes routine procedures for passing information.

The demand for proficient linguists can rapidly exceed a unit's capabilities, and augmentation should be requested if it is needed. Unit language rosters should be culled to separate the soldiers who can handle only polite conversation from those whose skills include a technical military vocabulary.

During the IPB process, the commander and his staff must focus not only on targets that may have value to the enemy in the event of a general war but also on more subtle objectives that could unbalance the host nation during a time of rising tensions. These include high-value infrastructure sites, the confidence and sympathies of the populace (which could be

influenced by the enemy—staging protests and the like), and the deterrent force itself while on patrol or in its base camp.

Finally, a thorough IPB for a large area of operations requires extensive aerial and ground reconnaissance, and it must involve the small unit leaders who will actually conduct the patrols. With the limited mobility available to many non-mechanized infantry units, additional resources must be provided by higher headquarters.

It is essential for every soldier participating in deterrent operations to clearly understand the rules of engagement. The 3d Battalion posts these rules in its tactical operations center and briefs them in detail to each patrol leader.

But rules that can seem clear when stated in the comfort of a headquarters or tactical operations center may prove difficult to interpret in the midst of a confusing firefight. An effective means of clarifying the rules of engagement is to conduct sandtable exercises with the patrol and squad leaders and to wargame various situations.

Commanders must play an active role in such exercises and must be prepared to seek guidance from the controlling headquarters when their questions remain unanswered. Small unit leaders, in turn, must conduct similar exercises with their soldiers, because those soldiers must also be prepared to assume command and act independently. Additionally, to reinforce the importance of the rules of engagement as a criterion for mission accomplishment, external evaluations of the patrols preparing for deterrent operations should emphasize adherence to them.

Excellent communications are critical to the success of deterrent operations, but they are often hard to achieve. A unit must operate over considerable distances and maintain channels with various combinations of host nation, combined, joint, and U.S. Army headquarters.

AUGMENT FORCES

To accomplish its mission, the 3d Battalion, 325th Infantry augments its deterrent operation forces with most of the battalion's communications personnel and equipment. The battalion signal officer is actively involved in all operational planning and participates in area reconnaissances to determine the number of radio retransmission and relay sites needed to support the patrols and where they should be located.

Initiative and flexibility are important in building a reliable communications network with a prudent amount of redundancy. For example, during a recent NATO exercise, the 3d Battalion deterrent operations TOC (tactical operations center) was equipped with an AMF(L) tactical radio rig, host nation army and commercial telephones, a tactical satellite radio, and the battalion's own internal FM radios. Each of these means of communication proved vital at one time or another.

(In fact, patrol leaders are issued commercial telephone cards that they can use to call the TOC if their FM radios fail. Scheduled courier runs using helicopters and vehicles also help guarantee reliable communications.)

The patrol force commander must also carefully analyze his communication requirements. If possible, all of his vehicles should be equipped with radios, the patrol leader's radio telephone operator should carry an AN/PRC-77 radio, and the patrol itself should be issued several AN/PRC-126s. Again, if these requirements exceed what a non-mechanized infantry company or battalion can meet, outside support should be requested.

Since an enemy will often be able to strike first, contingency planning assumes a prominent position in conducting deterrent operations, and reaction forces must be established to respond to the threat. If an area of operations is large, helicopters should be prepositioned at the patrol base to transport the reaction force, and the reaction force leader and the aviators should attend patrol briefings and rehearsals. Even when helicopters are available, however, ground transportation must still be considered for use in moving the reaction force during inclement weather conditions.

When considering reaction forces, planners should look at the availability of allied or host nation resources. One technique the 3d Battalion has used is to establish contact points with adjacent allied patrols. The meeting of patrols does increase an awareness on both sides of the presence of friendly forces while perhaps discouraging enemy efforts to operate along unit boundaries.

A patrolling force commander must also plan for medical evacuation, maintenance contact teams, vehicle recovery, and ammunition resupply. The 3d Battalion's support platoon leader has organized a team to provide on-call logistic support. As in the case of the reaction force, logistic response team chiefs must attend the patrol briefings and rehearsals. They must be skilled in navigation and competent at talking on a radio and responding to a patrol leader's instructions.

Finally, the logistics support team must have protection so that it does not find itself the object of an ambush. Additional Military Police or components of the reaction force can be assigned to perform this mission.

During patrolling operations, thorough debriefs and periodic after action reviews can help identify deficiencies in preparatory training, tactics, and resources. The many observations the leaders of the 3d Battalion made during a review of AMF(L) exercises include the following:

- A non-mechanized infantry unit can conduct deterrent patrolling effectively only when it is properly task organized. This entails personnel and equipment augmentations. Appropriate task organizations, in turn, must be reflected in rele-

vant contingency plans and readiness standing operating procedures.

- Once deterrent patrolling begins, habitual relationships should be established at the lowest possible level. For example, the same mortar squads, medics, drivers, military police, engineers, snipers, and host nation personnel should patrol with a particular squad or platoon. The resulting improvement in operational efficiency more than compensates for the hardship suffered by the units that must provide the attachments.

- Patrols must vary their operating procedures to avoid establishing easily discernible patterns. Random dismounting, changes in vehicle march orders and intervals, and imaginative route selection are among the techniques they can use.

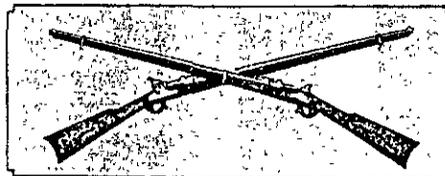
- All participants should attend the after action reviews—not only the key patrol leaders but also logistic team chiefs, TOC officers and NCOs, host nation liaison officers, and reaction force leaders.

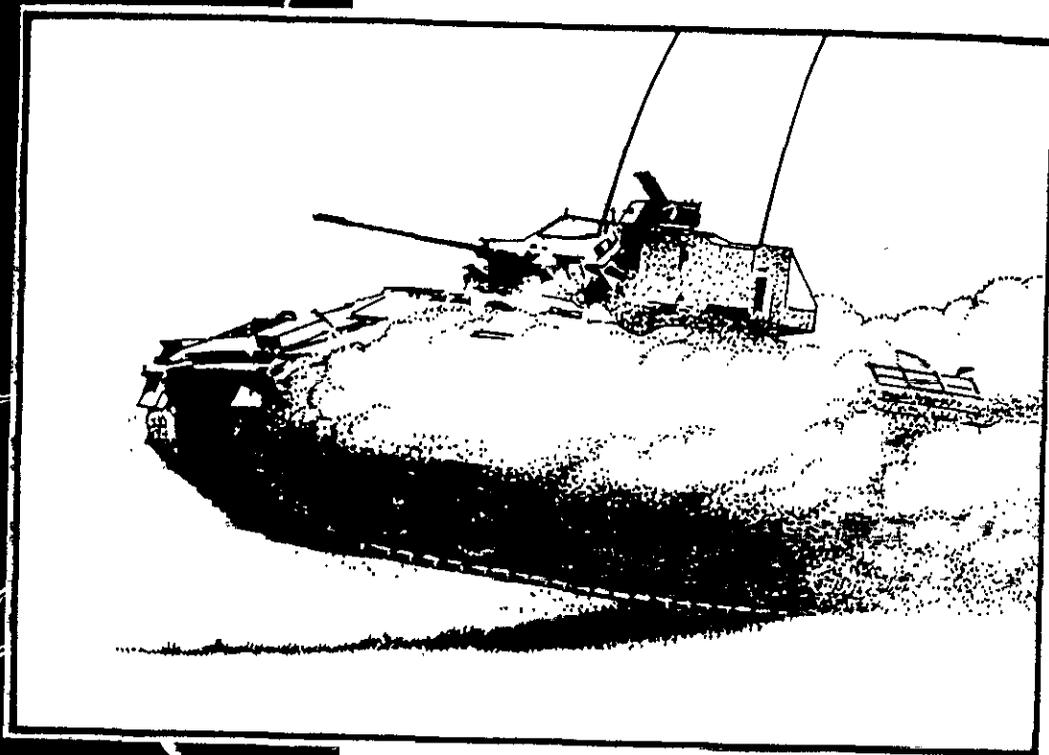
- The patrol leaders need to concentrate on navigation and command and control; they should make their radio telephone operators (RTOs) responsible for receiving and transmitting routine reports during motorized operations. (Mounted navigation skills are usually weak among junior non-mechanized infantry leaders who are accustomed to moving at two or three kilometers an hour instead of 20 to 30.)

- Leaders must always think in terms of host nation (and possibly allied) resources in the particular area. As an example, an efficient staff may arrange for expeditious casualty evacuation through U.S. Army channels while overlooking the fact that the patrolling area of operations is dotted with sophisticated host nation hospitals.

The most important lesson the 3d Battalion has learned through its participation in NATO AMF(L) missions may be that deterrent patrolling is a unique military operation and deserves a separate entry on the battalion's mission essential task list. Units whose contingency plans may require them to participate in deterrent operations should carefully consider this mission and its implications when developing their own task lists.

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BLITZKRIEG: THE MYTH OF BLITZ

CAPTAIN THOMAS T. SMITH

Anyone who stands on "The Whale" at the National Training Center, or "Antelope Mound" at Fort Hood, or "Old Baldy" at Hohenfels in Germany will probably soon see an M1 tank or M2 Bradley platoon roaring by in a 40-mile-per-hour charge and a boil of dust.

This is what we in the combat arms like to think of as displaying an aggressive spirit, always in the best tradition of Rommel or Patton. The fact that this offensive spirit translates into great speed in miles per hour is an unfortunate misconception of past events.

Our concepts of the rapid pace of armor operations are firmly rooted in certain assumptions we make about the historical legacy of previous events. Jackson in the Valley, Stuart's ride, Sherman's march, Guderian's blitzkrieg, and other legendary

episodes shape our maneuver thinking and sometimes drive us ever forward, ever faster.

But in those past operations, how fast was fast? Blitzkrieg (or "lightning war") is a term that conjures up the very image of speed. But what did blitzkrieg really amount to in miles per hour or per day? An examination and comparison of the estimated pace or rate of advance of a selected series of battles, campaigns, or specific operations may be surprising and may challenge our concept of the speed of past military operations.

The examples I have chosen are well known to military professionals, and were certainly not the run-of-the-mill kind. I selected them because they are outstanding examples of the use of maneuver and movement to gain an objective.

Except when noted, the average mile per hour figure was obtained by dividing the average daily advance by 12 hours, a compromise figure based on the infrequency of night operations for mechanized or armored forces as well as the need for maintenance, resupply, and sleep. No variables or coefficients were used to account for weather, terrain, enemy strength, or other factors. All of the operations were executed, however, under the general conditions of a movement to contact.

Since dismounted infantry should represent the slowest rate of advance, the first two examples are of marching infantry from the U.S. Civil War. These provide a standard base for the others.

- After a number of diversionary moves and zigzag feints, Confederate Lieutenant General Thomas J. "Stonewall" Jackson with 17,000 of his quick-marching "foot cavalry" invaded the Shenandoah Valley in the summer of 1862. His command fought five battles from McDowell on 8 May to Port Republic on 9 June, and marched 260 miles. Jackson's movement averaged 8.6 miles (13.7 kilometers) per day, or 0.7 miles per hour.

- Major General William T. Sherman, in the 25 days between 15 November and 10 December 1864, led 62,000 Union soldiers in his march of 250 miles from Atlanta to the sea at Savannah. Sherman averaged 10 miles (16 kilometers) per day, 0.8 miles per hour.

The Civil War and frontier cavalry provide four more examples of rates of movement.

- During the Peninsular Campaign, Confederate General J. E. B. Stuart made his reconnaissance ride around Major General George B. McClellan's Army of the Potomac. Stuart and his 1,200 horse soldiers left Richmond on 12 June 1862 and covered 95 miles in three days. They averaged 31.6 miles (50.5 kilometers) per day, 2.6 miles per hour.

- Between 17 April and 2 May 1863, Colonel Benjamin H. Grierson led 1,700 Union cavalry on a raid from Grand Junction, Tennessee, to Baton Rouge, Louisiana. The brigade rode 600 miles in 16 days, averaging 37.5 miles (60 kilometers) per day at 3.1 miles per hour.

- In 1873, Colonel Ronald S. Mackenzie led 400 men of his 4th Cavalry on a raid from near Fort Clark, Texas, across the Rio Grande to Remolino, Mexico. From 17 to 19 May, Mackenzie's command remained in the saddle for the 140-mile round trip to attack a village of Kickapoo Indians who had been using Mexico as a sanctuary after their depredations. His average was 70 miles per day (112 kilometers) and (since they rode 24 hours a day) 2.9 miles per hour.

- Lieutenant Colonel George Armstrong Custer and the 7th Cavalry left Fort Abraham Lincoln, Dakota Territory, on 17 May 1876 and arrived at the Little Bighorn River on 29 June after riding 320 miles in 41 days. Their average speed was 7.8 miles (12.4 kilometers) per day, 0.6 miles per hour.

An examination of modern mechanized maneuver begins with German General Heinz Guderian, the principal architect of the operational aspects of blitzkrieg.

- In the original blitzkrieg—the first 14 days of the invasion of Poland, 1-14 September 1939—Guderian's XIX Corps

of panzers and motorized infantry traveled 325 miles from their attack position to Brest-Litovsk, Poland, an average of 23.2 miles per day (37.1 kilometers), 1.9 miles per hour.

- During the invasion of France, 10-23 May 1940, Guderian's XIX Corps traveled 255 miles from the German border to Calais. Although their best day was 56 miles, their average daily rate was 19.6 miles (31.3 kilometers), 1.6 miles per hour.

- During the opening period of the invasion of the Soviet Union, 22 June to 16 July 1941, Guderian's Second Panzer Group, as part of Army Group Center, covered 413 miles from the Polish border to Smolensk. Guderian's best day was 72 miles. His command averaged 16.5 miles per day, 1.3 miles per hour. (Guderian's average for all three examples was 19.7 miles per day, 1.6 miles per hour.)

General Erwin Rommel's campaign in the desert of North Africa offers another four examples. I have also included as an example the British pursuit of Rommel's retreating forces:

- His first major offensive across Libya, launched on 24

AVERAGE RATE OF ADVANCE SELECTED OPERATIONS			
OPERATION	DATE	MILES PER DAY	MILES PER HOUR
Stonewall Jackson's Shenandoah Valley Campaign	May 8 - June 9, 1862	8.6	0.7
William T. Sherman's March to the Sea	Nov 15 - Dec 10, 1864	10.0	0.8
J. E. B. Stuart's Reconnaissance Ride	June 12 - 15, 1862	31.6	2.6
Benjamin H. Grierson's Raid	Apr 17 - May 2, 1863	37.5	3.1
Ronald S. Mackenzie's Raid	May 17 - 19, 1873	70.0	2.9
George Armstrong Custer's Campaign	May 17 - June 29, 1876	7.8	0.6
Heinz Guderian's XIX Corps	Sep 1 - 14, 1939	23.2	1.9
Heinz Guderian's Second Panzer Group	June 22 - July 16, 1941	16.5	1.3
Heinz Guderian's XIX Corps	May 10 - 23, 1940	19.6	1.6
Erwin Rommel's Campaign	Apr 24 - May 23, 1941	19.7	1.6

March 1941 at El Agheila, drove 320 miles to Tobruk, arriving on 10 April. In 18 days the German 5th Light and 15th Panzer Divisions averaged 17.7 miles (28.3 kilometers) per day, 1.4 miles per hour. (The 5th Light Division later became the 21st Panzer Division.)

- When he was eventually driven back to the border, Rommel launched a second offensive over the same ground in 1942. From El Agheila to the Gazala line, the Africa Corps covered 350 miles between 21 January and 4 February 1942. This was an average of 23.3 miles (37.2 kilometers) per day, 1.9 miles per hour.

- Between 26 March and 2 June 1942, Rommel conducted his end run around the Gazala-Bir Hacheim Line. From their laager to the beginning of the Cauldron battles, the 15th and 21st Panzer Divisions traveled about 60 miles in 8 days for a daily average of 7.5 miles (12 kilometers), or 0.6 miles per hour.

- In the Battle of Alam Halfa Ridge, Rommel's 15th Panzer traveled 30 miles on 31 August and 1 September 1942. Their average was 10 miles (16 kilometers) per day, 0.8 miles per hour.

Within the limits of this sample, Rommel's offensive operations in Africa averaged 14.6 miles per day, or 1.1 miles per hour.

- After Rommel's defeat at El Alamein, his retreating forces were pursued 1,400 miles to Tunisia by Lieutenant General Bernard L. Montgomery's British Eighth Army. This pursuit, slowed by skillful German delaying actions, lasted from November 1942 to February 1943, about 90 days. Montgomery's command averaged 15.5 miles (24.8 kilometers) per day, 1.3 miles per hour.

On the U.S. side, I put forth the following examples:

- In July 1943, as part of Lieutenant General George S. Patton's U.S. Seventh Army during the invasion of Sicily, the 2d U.S. Armored Division attacked from Gela to Palermo in 5 days. At the same time, the 3d U.S. Infantry Division attacked from Agrigento to Palermo. These divisions averaged 20 miles (32 kilometers) per day, 1.6 miles per hour.

- In France during the St. Lo breakthrough operations, the 4th and 6th U.S. Armored Divisions were elements of Major General Troy Middleton's VIII U.S. Corps. During the period 25-31 July 1944, the VIII Corps advanced 40 miles for an average of 5.7 miles (9.1 kilometers) per day, 0.4 miles per hour.

- These two divisions became part of Patton's forces when his U.S. Third Army became operational on 1 August 1944. During the breakout phase, the 6th Armored drove from Avranches to Brest, 180 miles in 7 days. The 4th Armored Division advanced from Avranches to Nantes, 160 miles 1-13 August, a daily average of 12.3 miles (19.6 kilometers), 1 mile per hour.

A final example of a relatively rapid armor rate of advance comes from the October 1973 Mideast War.

- After a continuous 30-hour armor battle, Israeli Major General Avraham Adan's armored division crossed the Suez Canal on a pontoon bridge near Deversoir the night of 17-18 October 1973. With other forces, Adan's division attacked

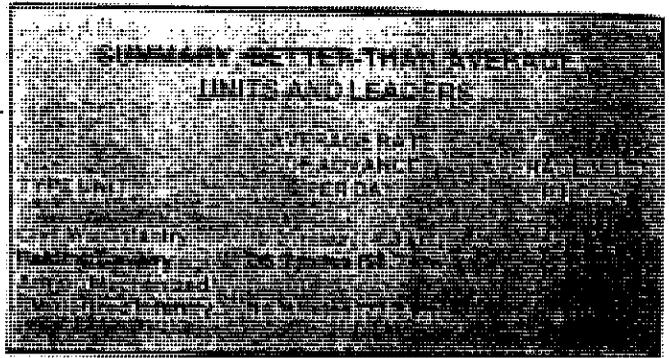
south against Egyptian mechanized infantry and tank forces and reached Suez City on 23 October, trapping the Egyptian Third Army. This attack averaged 7.5 miles (12 kilometers) per day, 0.6 miles per hour.

From this limited survey, the following rates of advance have been calculated for better-than-average units and leaders:

- The Civil War infantry in this survey averaged 9.3 miles (14.8 kilometers) per day, 0.8 miles per hour.

- The raiding cavalry had the highest averages of the survey—36.7 miles (58.7 kilometers) per day, 2.3 miles per hour.

- The average for the armor/mechanized/motorized infantry advances is 14.9 miles (23.8 kilometers), 1.1 miles per hour.



The rate of advance for an armored force is always limited, of course, by its appetite for fuel and ammunition and by the speed at which these commodities can be transported. The German armored blitzkrieg in Russia, for example, had one-half million horses in its supply column. In the absence of a road network or deep mud, the animals often proved more efficient than wheels.

None of these examples of armored force advances produced an average speed of more than 2 miles per hour. Long advances are a product of steady momentum and perseverance rather than dash. This is not to suggest that the mobility and speed of armored vehicles are not important to operations. Armored battles have brief opportunities that can be seized only by a burst of speed or a bold assault.

Certainly, the dash speed between firing positions gives a vehicle an important element of protection, and also allows it to seek cover rapidly or to even evade enemy fire. Vehicle speed also allows commanders to shift forces rapidly during a battle. As the evidence in this study suggests, however, our historical models such as Guderian, Rommel, and Patton did not use the potential speed of their forces to sacrifice security or to rush blindly into uncertain situations.

We might well take note of this lesson when we train our own tank and Bradley platoons.

Captain Thomas T. Smith, commissioned from the Officer Candidate School in 1982, has served as a Bradley platoon leader and company commander in the 1st Battalion, 41st Infantry. He is now attending graduate school at Texas A and M University in preparation for instructor duty at the United States Military Academy.

TRAINING NOTES



JRTC The OPFOR's Training

CAPTAIN STANLEY WILSON

When units train at the Joint Readiness Training Center (JRTC) at Fort Chaffee, Arkansas, the following scene is not uncommon:

An infantry platoon is conducting a search and attack operation. As darkness falls and the vegetation becomes thicker, the platoon begins to bunch up and the lead squad becomes complacent. Suddenly shots ring out and the MILES (Multiple Integrated Laser Engagement System) buzzers sound on two soldiers. The soldiers in the lead squad go to ground but are unsure where their attackers are.

As the platoon leader comes forward, two more men are wounded and the lead squad still cannot pinpoint the enemy. The platoon leader sends the second squad sweeping to the right, while the third maneuvers to the left. The platoon sergeant moves to help the lead squad care for its wounded and begin the evacuation process.

The second squad has moved only a short distance when it walks into a close ambush and four of its nine soldiers fall wounded. The platoon leader reacts by moving his third squad over to assist, but by the time it arrives the enemy has faded away.

The platoon settles down to evacuate its wounded and dead, but just as the am-

balance arrives, so do the first volleys of 82mm mortar fire. The platoon, with its soldiers clustered around their wounded and carrying the bodies to the ambulance, sustains five more casualties.

A platoon that only minutes earlier had been a trained combat force has been reduced to less than two effective squads. Worse, it has inflicted no casualties on the opposing force (OPFOR).

UPPER HAND

By contrast, the OPFOR at the JRTC—portrayed by soldiers assigned to the 1st Battalion (Airborne), 509th Infantry—rarely find themselves in such situations. Usually, in fact, they quickly gain the upper hand and inflict far more casualties than they sustain.

As a company commander in the OPFOR battalion, I would like to share a look at the training the OPFOR receives. This may help units that are preparing for training at the JRTC as well as other units that would like to refine their own sustainment training programs.

There are no "secrets" to the OPFOR battalion's success, just simple attention to the fundamentals. The keys to effective squads and battlefield success are marks-

manship, well-rehearsed battle drills, and small unit leadership.

We begin a soldier's training with marksmanship. Every soldier must understand his weapon, its capabilities, and its limitations. Once he is issued a weapon, we make sure he can hit his target.

The first step is to have each soldier zero his weapon's MILES device. This involves placing the MILES transmitter on the weapon and then twisting it so it fits tightly against the front sight post. Next, the soldier assumes a good prone supported position at the end of the 25-meter rope provided with the small arms alignment fixture (SAAF). After getting a good sight picture, the soldier fires. His team or squad leader then notes how far off zero the SAAF indicates and makes the necessary adjustments. This process continues until the soldier zeros his weapon, consistently getting 0's and 1's or 2's as indicated by the SAAF.

Once the soldier has a good zero, he will be able to maintain it. If he bumps or jars the transmitter and disrupts the zero, all he has to do to regain it is to twist the transmitter so it rests against the right edge of the front sight post. (This also means the soldier can remove the transmitter to perform the necessary maintenance on his weapon.)

TRAINING NOTES

The soldier then moves on to field firing. His targets, other soldiers in MILES gear, arrange themselves at known distances from 50 to 400 meters (longer for machinegun fire). The soldier, under the direction of his team leader, engages the targets, and if he cannot get "kills" he is sent back to re-zero. He continues to fire on targets at various distances until he and his team leader are satisfied that he can engage them successfully within his weapon's range. The soldier then engages moving targets under the direction of his team leader, and again continues until both are satisfied with his abilities.

Even after a soldier has mastered the basics, his marksmanship training continues with acquiring targets, hitting targets at night, and other essential skills.

Marksmanship skills are of little use, though, if a soldier cannot find targets and engage them effectively during both daylight and periods of limited visibility.

Finding a target is a basic part of marksmanship. OPFOR soldiers practice patience and stealth to acquire targets. They often find that their opponents are either lazy or complacent, using trails, crossing open areas, or exposing themselves in other ways. OPFOR soldiers are therefore trained to pay attention to these areas, which are often located along natural lines of drift.

(Once a soldier identifies a target, he fires single controlled shots. Here, marksmanship training really pays off, because it usually takes only one or two shots to eliminate a target.)

OBSERVING

Observing a sector is boring and, unless a soldier does it systematically, he tends to become lazy and watch only the areas that particularly interest him—along roads, busy intersections, or other easily traveled routes. Although most targets will use such routes, a soldier cannot neglect the other parts of his sector.

To ensure complete surveillance of a sector, an OPFOR soldier is taught to divide it into small portions and scan for targets from left to right, top to bottom, or near to far. The method he uses is not important so long as he takes a system-

atic approach that includes the entire sector.

The process of finding and engaging targets is hindered by the hours of limited visibility—that time from sunset to after dawn and during foggy or rainy and dark days—and nighttime.

It is especially difficult at night to align a weapon's sights, determine range, and identify the target. A soldier almost always fires high when engaging targets at night. To locate a target, he tends to hold his eyes wide open to allow all available light in. But when he holds his rifle up and tries to sight through the rear aperture, this causes him to change his focus and lose the fleeting target he may have had. To compensate for this, he tends to look over the top of the rear sight, align the barrel with the target, and shoot. A side view of this action would show the rounds passing well over the top of the target.

We have found that the soldier is usually not aware of this phenomenon. He believes he is shooting at night exactly as he does in the daytime, and we have to convince him otherwise. One way we use to do this is to have him observe a night ambush with night vision goggles. The lasers emitted by the MILES transmitter are visible with the goggles, and the soldier can see how high and generally off target his peers are shooting.

Once we have convinced him that the problem exists, we can train him to compensate for it by keeping both eyes open and intentionally aiming low. NCOs with night vision devices can also direct the soldiers' fires onto targets to increase enemy casualty levels. As in most other training, the more often a soldier practices this, the more proficient he will become.

Determining range and identifying targets are also difficult at night. For one thing, sound travels farther at night, and sound is important in determining an enemy's range at night.

An OPFOR soldier is taught to do everything possible to avoid making noise and to use the noise his opponents make to determine their direction and distance. Clouds, rain, fog, and other climatic changes—along with the season, temperature, and time of night—all affect

what type of sound will travel and how far. The only way a soldier can improve his ability to judge range by sound is to practice it repeatedly under various conditions.

Identifying a target as friend or foe at night is another difficult task. Our soldiers are trained to look for tell-tale indicators. For instance, a crouching soldier can silhouette another soldier against the night sky and identify him as friend or foe by his headgear or differences in uniform and equipment.

BATTLE DRILLS

In addition, battle drills—actions that are rehearsed in advance to improve chances of survival during contact—allow OPFOR leaders to know where their men are and enable them to engage targets effectively on the battlefield.

Battle drills are essentially standing operating procedures (SOPs) based on individual and team actions, for use when contact—chance or otherwise—with an enemy has been made. They are well rehearsed, situation-dependent reactions to enemy actions.

Battle drills, like marksmanship, begin with the basics. A soldier must first know how to move as an individual before he can begin to act as a member of a team. He must know how to observe during movement, see what is around him, and make constantly changing decisions on what he will do next if something occurs. He must know where he is going and where to find the nearest cover and concealment. He must avoid stepping on vegetation that makes excessive noise. He must constantly observe his designated sector of the unit's perimeter while maintaining his place during movement and at halts.

He must also practice moving under fire. Low crawling is the safest movement technique, but it is slow and tiring. There are faster types of crawling, but they create a higher profile and increase risk. The rush is still another way of approaching a nearby enemy.

Regardless of the technique he uses, a soldier must eventually operate as a member of the team. He must then plan

all of his moves and make sure that his actions are what the team leader wants and that they tie into the overall scheme of movement for the element in contact. Otherwise, he will jeopardize the entire element. An unplanned or unwanted movement by one soldier can result in masked fires, unnecessary casualties, and even fratricides.

The individual soldier must be familiar with the variety of methods leaders use to control their elements — hand and arm signals, whistles, and voice commands — and with what each means and the desired action.

To be a full-fledged team member, a soldier must also know how to use a radio, how to call for and adjust fire, and how to send an accurate report. Although these are all standard SQT (skill qualification test) training for soldiers, few ever get a chance to put that training into action. The OPFOR soldiers practice these skills until they are comfortable performing them.

The team rehearses all types of movement, from the basic wedge through bounding overwatch, until both the individual and the group move with confidence. This teamwork culminates in battle drills.

Actions taken as a result of chance contact, hasty attack, and breaking contact are battle drills that involve fire and movement. Each requires the same skills with only a few variations — determining the enemy's location, making a hasty assessment of the situation, establishing a base of fire, and conducting fire and movement. Repetitive contact trains OPFOR leaders and soldiers to locate the enemy rapidly and make a hasty assessment of the situation.

The most difficult situation to train for is chance contact. Because neither side expects contact, the unit that gains the initiative will be victorious. OPFOR soldiers are trained to rapidly determine the size and location of the main enemy force and respond accordingly.

Controlled fire and movement or maneuver, coupled with indirect fire support, causes the opponent to hesitate long enough for the OPFOR to gain the upper hand and control the contact. If the enemy is near, as in an ambush, the



OPFOR assaults through the enemy lines, establishes a base of fire, and then makes a second assessment of the situation. Against an enemy element that is poorly deployed or that does not have a large numerical advantage, the OPFOR will attack it using fire and maneuver, close with, and then destroy it.

If the enemy is too strong, the OPFOR will begin to break contact by leaving a small detachment in contact while most of the force moves to another location. The larger force then covers the withdrawal of the detachment in contact with direct and indirect fires.

The OPFOR soldiers know, however, that no plan survives contact. What is important is for everyone to understand the intent of an order and its implementation. When they do, they will make whatever changes may be required at their level to ensure mission accomplishment.

Along with individual movement and applicable battle drills, competent OPFOR junior leaders are also essential to accomplishing missions. When these leaders understand the situation, feel free to act as the situation dictates, have the

trust of both their subordinates and superiors, and know they have the fullest backing for their decisions, they will invariably complete their assigned tasks.

The OPFOR operates in a decentralized fashion. Squad leaders may not see their team leaders for many hours, and platoon leaders may see their squad leaders only once every three or four days. Because a leader in the field is closest to the battle, he must have an opportunity to make the decision on the ground. As he gains experience and becomes a more seasoned leader, he will make even better and faster decisions.

For this decentralization to work, leaders at all levels must be trusted. OPFOR leaders are trained to act on the situation and keep the chain of command informed as they do so.

Occasionally, junior leaders do make mistakes; that is the purpose of training — to allow them to make mistakes without costing lives. They must understand that their superiors realize they do not operate in a perfect world and everyone makes mistakes.

Any success a unit gains by training at

the JRTC will not be based on its knowing certain secrets or conducting unusual training. The success will come from mastering the basics. The soldiers must be confident in their weapons and capable of hitting targets with them under all conditions. And when a unit makes contact, the soldiers must know what to do as members of a team. Their leaders must

also be confident and competent, trusted by their subordinates and superiors, and they must know the intent of the chain of command.

When a unit brings these principles together and is willing to take the battle to the enemy, it will succeed — at the Joint Readiness Training Center and on the battlefield.

Captain Stanley Wilson commands Company A, 1st Battalion (Airborne), 509th Infantry, the opposing force at the Joint Readiness Training Center, where he had been a platoon observer-controller. He previously served in platoon and company assignments with the 1st Battalion, 38th Infantry, 2d Infantry Division in Korea and the 2d Battalion, 21st Infantry, 24th Infantry Division at Fort Stewart.

Leadership and PT

LIEUTENANT COLONEL HARRY D. STUMPF

Raising the level of *esprit de corps* in a group is an important leadership objective. Whether we call it *morale*, *camaraderie*, or team spirit, good units have it.

Small unit cohesion increases unit readiness and effectiveness in combat. Various studies have shown, in fact, that a soldier on the battlefield keeps fighting primarily because of his buddies, his squad, and his small unit leader. Cohesion, in fact, is the basis of the Army's Regimental System for units up to battalion size.

Countless techniques have been used to achieve cohesion. One that I have seen work consistently is a good, simple physical training, or PT, program. (I know that Field Manual 21-20, Physical Fitness Training, doesn't use the term PT any more, but it still fits the kind of activity I am talking about.) PT is important in its own right, of course, but many units, by paying attention to the way they conduct it, can also use it to significantly strengthen unit cohesion.

None of the aspects of the unit physical training in this technique are new. In fact, disciples of FM 21-20 would call them "traditional" or "conservative." Together, though, they form a perspective that strongly supports unit bonding.

Both personal conditioning and tradi-

tional physical training are important to combat readiness, and both should be part of a unit's emphasis. But each has its place, and today we seem to be leaning too far in the direction of personal conditioning at the expense of PT.

Personal conditioning is a life style that includes a balanced diet, proper rest, weight training, and lifetime sports (bowling, golf, tennis, swimming, sailing, and cycling). It also includes a knowledge of cardiovascular exercises and a conscious support of healthy habits. Medical and dental care are part of it, too, as are drug, tobacco, and alcohol awareness and sex education. It requires study because learning it does not come naturally.

A UNIT ACTIVITY

On the other hand, physical training, as the term is used here, is a unit activity—soldiers exercising and running together in uniform, in formation, and to a cadence. This is where leadership works to build small unit cohesion, and many units can increase the worth of the time it spends doing PT by improving its cohesion at the same time.

Why is a unit's PT session so impor-

tant to cohesion? Because this is the one time in a day when a company can expect to have most of its soldiers doing something together as a unit.

In the field, the platoons separate during maneuvers. In combat units, companies and platoons are often cross-attached to different battalions and companies. Firing batteries usually have their sections in separate firing positions. During gunnery training, the company often breaks up between different firing ranges, guard details, and the rear detachment. Service units, usually separate companies, can spread to the four winds. And in garrison, because of a multitude of daily activities ranging from appointments and details to ceremonies and mandatory classes, a company rarely has everyone together engaged in a common task.

The traditional unit PT consists of calisthenics followed by a run in formation, usually in the early morning, led by the noncommissioned officers with the officers in the rear rank. Lately, though, I have noticed some disturbing variations to this type of PT. Company physical fitness sessions seem to have moved away from the regimented (disciplined) aspects of PT and toward individual workouts based on guidance from

the master fitness trainers in the company.

For example, the fitness trainers lead calisthenics too often, and instead of saying, "I'll count cadence and you count repetitions," they tend to say, "Now do a couple of minutes of stretching on your own" or "Now attempt to touch your right foot with your left hand (on your own) . . . now switch over," or "Do as many diamond push-ups as you can in the next 30 seconds."

This is personal conditioning, not PT. Worse, it deprives the leaders of an opportunity to practice leading their soldiers and the soldiers of an opportunity to practice following their leaders.

There are other problems as well: The units form into ability groups—slow, medium, and fast—for runs; often the officers will do their own separate workout instead of exercising as part of the unit; and the variety of uniforms in the same formation emphasizes the individual, not the unit. All of these work against unit integrity.

A company commander can take several steps that will help him make the most of his PT sessions in terms of leadership as well as fitness:

- Ensure maximum participation.
- Use the master fitness trainers properly. The concept of having master fitness trainers in each unit is a good one, and they have a number of impor-

tant functions in planning physical fitness training and educating the soldiers in various aspects of health and physical conditioning. A master fitness trainer's role in conducting PT, however, should be to teach the NCOs and junior officers how to lead it and then let them do it. He should prepare and rehearse the leaders for several days before they lead the company.

- Rotate the leaders. All new NCOs (and old NCOs, too) need practice physically leading their soldiers, as they will have to do in battle.

- Allow the soldiers to stretch as a warm-up before calisthenics, but see that the exercises are more formal and that they include those that are performed to a cadence. The leader doesn't have to be a martinet, but he has to know the exercises, perform them correctly, control the formation, and generally be in charge.

- Enforce a strict uniform policy, aside from shoes, of course. The PT uniform may not have much to do with physical fitness, but it has a lot to do with mental conditioning. It is associated with the same reasoning that has us in the same uniform for the rest of the day—it gets everyone on the same team. And it is another measure of quality leadership and quality training.

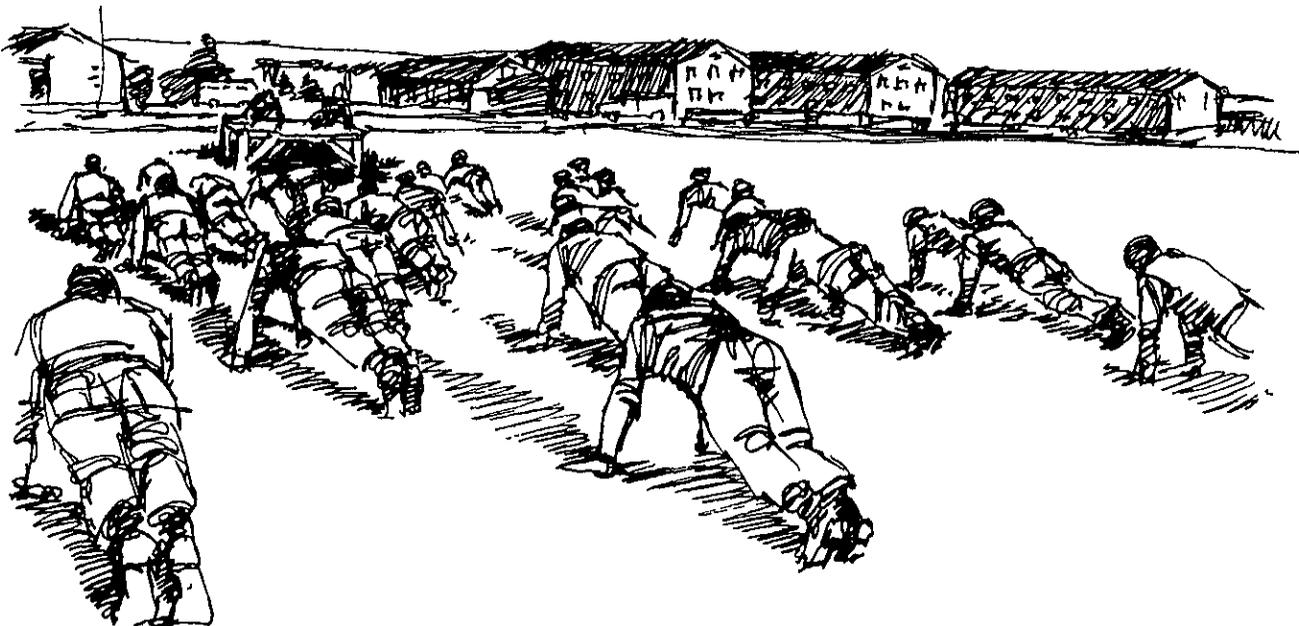
- Have the officers participate in the

unit PT. It's all right for the NCOs to run the show while the officers stay in the rear rank, but the officers should at least be there. It makes a difference to the soldiers and to the NCOs.

- Have the soldiers run in formation to a cadence, maintaining squad, platoon, and company integrity. This is more of the stuff small unit cohesion comes from. The soldiers can see who falls out and who hangs in there. The pace should be slow enough for the slow runners to keep up. Although it may be easier said than done, everyone should start together, run together, and finish together. (An occasional brigade run is also in order—with the commander leading and the flags and guidons fluttering.)

It is true that some fit young soldiers may receive little or no physical training effect from the slower pace of a unit run, and that ability group runs can compensate for these different levels of fitness, but they should not be used in place of PT. Those soldiers who want to run harder or farther can run after the company has finished or after duty hours.

In a PT session, developing spirit and leadership can be an even greater benefit than the exercise. The object of a unit run, therefore, should be to keep each soldier part of the unit more than to tax him physically. His leaders can tax him on the APFT or in sports competitions.



Better yet, they can see that he is taught about personal conditioning so he can tax himself.

PT sessions are not the only way to ensure unit physical fitness. Variety is important too. Company teams for such sports as basketball, flag football, softball, and volleyball is another important esprit builder. Leaders might take the company to a 10-kilometer run in a local community, to the local swimming pool, or to a nearby beach. They should also have the unit practice to win battalion sports day competitions. An infinite variety of options are available, with master fitness trainers and FM 21-20 to help.

Soldiers, especially those who have not had an opportunity at home or in school, need to learn about the complete spectrum of physical conditioning and health, and leaders must make sure that they do. And they need it early, because

it's easier to develop good habits than to break bad ones later.

Once soldiers are aware of the principles of overload and progression, they can incorporate these principles into their personal workouts. The leaders need to set the example by their own performance in PT formations and by their behavior the rest of the time. Outside the PT formation, leaders can also teach personal conditioning and health by their example. (What is a soldier to think about a leader who is a heavy smoker or drinker, or otherwise abuses his body?)

But when it comes to PT, it should be done by the numbers, as a unit, in uniform, with the leaders giving commands and leading by example, and with the guidon out in front.

On a future battlefield characterized by high volumes of fire and a lack of

distinct FEBA or FLOT trace, many small units and task forces may find themselves either bypassed or encircled. Small units—if they are to cope with the extended fronts, violence, confusion, lethality, and dynamics of this kind of battlefield—will have to be more cohesive than ever before.

And the leadership and cohesion of PT is important in building that kind of unit cohesion. Combat is, after all, a team sport.

Lieutenant Colonel Harry D. Stumpf is with the Inspector General's Office, Headquarters, U.S. Army Forces Command. He is a 1972 graduate of the United States Military Academy and holds a master's degree from Long Island University. He has served with infantry battalions in the 82d Airborne Division, the 3d Infantry Division, and the 3d Armored Division.

Commander's Fitness Program

CAPTAIN SAMUEL J. PADGETT, JR.

Physical fitness is a primary concern for all commanders. To succeed in combat, they must get their soldiers to the right place at the right time with the right weapon. This means the soldiers must be able to footmarch, carry loads, and move equipment.

A commander's responsibilities in regard to fitness are to assess his unit's fitness levels; establish realistic goals; develop unit training programs that prepare his soldiers for combat; conduct well-planned, innovative, physical training; and lead by example.

To assess his unit's fitness levels, a

commander systematically averages the scores that his soldiers earned on each event of the company's Army Physical Fitness Test (APFT). He then plots the point averages of each event on a graph. This should permit him to see his unit's strengths and weaknesses and to set his goals accordingly.

For example, if the company's average on push-ups is 74 points, the commander can establish goals of 80-84-86 and higher for all soldiers as the company progresses. Although some of the soldiers may not reach the 80+ points on push-ups or sit-ups, the commander must

set a standard that fits his mission and then program remedial physical training for those who fail to meet it.

The first thing a commander should do in planning a unit fitness program that will achieve his goals is to become familiar with the exercise principles in Field Manual 21-20, Physical Fitness Training. Those principles are regularity, progression, overload, balance, specificity, variety, and recovery.

After a commander establishes his goals, he should focus on what he wants to accomplish and how he wants to go about it. A sample program is shown in

SAMPLE FITNESS TRAINING SCHEDULE

Monday	Push-up improvement, sit-up improvement.
Tuesday	Long run (ability groups), speed play, or interval training.
Wednesday	Circuit training used in conjunction with push-up and sit-up improvement or sports activity.
Thursday	Long run (ability groups) or footmarch.
Friday	Push-up improvement, sit-up improvement, weight training (if available) or partner-resisted exercises (for trained individuals).
Saturday	Long run.

the accompanying box. (Since the soldiers can do timed multiple sets of push-ups and sit-ups at their own pace, dividing them into ability groups during these sessions is not necessary.)

A commander must ensure that his program focuses on what his soldiers will be expected to do in combat. A light infantry unit, for example, should periodically conduct long tactical foot marches of 5, 8, 10, and 12 miles. Artillery personnel, on the other hand, since they must move heavy artillery projectiles, should work on muscle endurance activities.

In a typical training period, the soldiers begin with a warm-up that consists of stretching and walking slowly to increase their heart rates. Then they do some muscular strength and endurance work—either push-ups and sit-ups or a cardio-respiratory activity such as a two-mile run. They end the period with a slow walk to cool down and slow their heart rates, and then stretch the specific muscle group they have been using.

In the push-up improvement event, the soldiers do four different types of push-ups: wide-arm, regular, close-arm, and diamond. This allows them to work the upper, mid, and lower pectoral (chest) muscle groups, thus increasing the number of push-ups they can do. They execute all exercises first from the elevated-feet position, then from the regular position, and finally from the knee position.

These exercises are conducted in sequence and in multiple sets of four. Each set is timed as follows:

- During Weeks 1-4—Set 1, 30 seconds; Set 2, 20 seconds; and Set 3, 10 seconds.

- During Weeks 5-13 (or more)—Set 1, 45 seconds; Set 2, 30 seconds; Set 3, 15 seconds.

For best results, push-ups should be

done at least three times a week, with at least one day of rest between sessions. (These recovery periods are important in building strength.) Once a soldier has reached muscle failure with the push-ups, he moves on to the sit-up improvement sequence.

Training for sit-ups should use the twist (Rocky) sit-up, the curl sit-up, and the regular Army sit-up. These should be done in timed multiple sets (as in the push-ups) from the elevated-feet position (feet resting on another soldier's back or a chair), and the regular position. (See paragraph 11-7, FM 21-20.)

The sit-up improvement sequence should be done at least three times a week, and the sessions should be concentrated and challenging. The commander should ensure that push-ups and sit-ups are not done the following day, but should emphasize a run instead.

The soldiers should train for the two-mile run by increasing the duration (time or distance) and the frequency (number of workouts).

Dividing the soldiers into ability groups for runs is a good idea in a company-sized element. The commander programs the soldiers into groups according to their times on the two-mile run, as shown on their APFT score cards. This enables the faster soldiers to start with a fast group and improve, while the slower soldiers avoid running injuries by beginning with a slower group. Fewer soldiers drop out, because each soldier is running with a group at his own pace. A leader should be with each group to provide encouragement and supervision, and to encourage all soldiers to move to a faster group as soon as possible.

Once the company is divided into ability groups, the commander can slowly increase the duration of the run from 20

KEY POINTS FOR SOLDIERS

Push-ups

- Use the correct form (see paragraph 11-6, FM 21-20).
- Always go to full extension.
- Use the same rhythm as on the APFT.
- Never hold your breath.
- Increase your repetition or times periodically.
- When you cannot do any more, do negative push-ups. (Rest your knees on the floor and return to the starting position; then let yourself down slowly to the count of eight.)

Sit-ups

- Use correct form.
- Use the same rhythm as you would on the APFT.
- Never hold your breath.
- Place a mat under your tailbone to prevent injury.
- If possible, do not anchor your feet.
- Do negative sit-ups when you are unable to do any more. Use your hands and arms to get back into position; then lower yourself slowly to the count of eight.)
- Pace yourself to take advantage of the full two minutes.
- Stretch the abdominal and hip flexor muscles before and after the exercise.

Runs

- Stretch the muscles of the legs and lower back before and after running.
- Do not run too fast at the start, or you may not be able to finish.
- Run and breathe naturally, rhythmically, and deeply.
- Move your arms back and forth faster to help you increase your pace.
- Run with someone of equal or slightly better ability.
- Keep time when you practice and stay within those times; if you have extra energy, you can speed up in the last half to quarter mile.
- Never sit down or stop after the run; walk for five to ten minutes to prevent the pooling of the blood to the legs.

minutes to 45 minutes or the distance from two miles to five. Gradually increasing the distance or speed helps avoid common running injuries such as shin splints, ankle sprains, torn ligaments, Achilles tendonitis, and the like. A company should spend at least three weeks running three-mile sessions. Additionally, soldiers should run on a track or soft

TRAINING HEART RATE

THR - Training Heart Rate
 MAX HR - Maximum Heart Rate
 RHR - Resting Heart Rate
 HRR - Heart Rate Range

INTENSITY PERCENTAGES:
 60% - Low
 70% - Average
 80% - High

MAX HR = 200 - age
 RHR = number of heartbeats in 10 seconds while lying or sitting, and multiply by six
 HRR = MAX HR - RHR
 THR = Intensity Percentage X HRR + RHR

Exercise Intensity Level

- Count the number of heartbeats for ten seconds immediately after the exercise.
- Multiply by six.
- This is your current intensity level.

surface for two or three weeks before running on a road.

Because this type of running is demanding, it should be done only once a week. Once the soldiers have developed a good running base, they can begin interval training and speed play.

Interval training involves running quarter miles, half miles, and miles at a

faster pace. Each soldier or platoon can do eight quarter-mile runs, four half-mile runs, or two one-mile runs. The pace must be fast enough to make the soldiers breathe harder than they would on a normal run. Then the soldiers should recover by walking until they catch their breath.

Speed play involves running at a mod-

erate pace, then quickening the pace for a certain time (30 seconds to six minutes) or a certain distance (50 yards to one mile). After running at the faster pace, the soldiers should slow down until they catch their breath, but they should never stop or walk during the exercise unless they are in pain or feel ill.

The accompanying chart will help a soldier determine his training heart rate for running and exercising.

Overall, in planning and conducting physical fitness training, it is important for leaders to understand FM 21-20 and use it correctly.

Captain Samuel J. Padgett, Jr., a graduate of the Master Fitness Trainer School, is assigned to the U.S. Army Infantry School's Directorate of Training and Doctrine. He formerly commanded a company at Fort Benning and served as a senior platoon trainer with the Infantry Officer Basic Course. A 1981 graduate of the University of Maryland, he also holds a master's degree from Central Michigan University.

Close Combat Training

**CAPTAIN DARRYL W. DAUGHERTY
 CAPTAIN DREW WATSON**

During the past four years, more has been written about close combat and the need for close combat training than at any time since the end of the Vietnam War. *That is all to the good, because the need for our infantrymen to become proficient in close combat skills is as great now as it has ever been.*

It is no secret that today's infantrymen are more intelligent and independent than any soldiers in our nation's history. These men volunteer for the infantry anticipating the discipline, pride, and reputation associated with the crossed rifles.

They expect tough training, fair treatment, and increased responsibility that is based on their potential. If their leaders train them properly, they will do the right things in combat.

Unfortunately, in today's environment of high technology weapons and an anticipated fluid battlefield, we have neglected the most basic of infantry fighting skills. We have ignored the basic fact that the individual soldier, armed with rifle and bayonet, still must close with and ultimately destroy his foe.

We must do away with the idea that the

stand-off ranges of our direct fire weapons and the tenacity of our supporting arms have eliminated the requirement for fighting at close quarters. If a soldier feels that he can take care of himself in a close combat situation, he will be more effective at that most crucial moment in any battle—the assault—because he will be eager to close with the enemy and to drive home his bayonet if he must. In the defense, this same soldier will be more inclined to hold key terrain even if the enemy has penetrated his unit's position.

One of the highest priorities for all

combat and combat support units, therefore, is to develop a comprehensive and systematic close combat training program. The training should be conducted in accordance with Field Manual 21-105; the instructor must be an expert in close combat fighting; and the training must be aggressive in spirit and progressive in nature. The program should be concerned with three particular forms of close combat: rifle with attached bayonet, knife and bayonet fighting, and unarmed combat.

Although safety must be considered in all three of these forms of training, the safety restrictions and devices should not be prohibitive or expensive. The ultimate objective is to create an aggressive, bold, confident, and ruthless soldier. Ruthlessness is probably the most important quality, because in a close combat situation the combatants fight to ensure their own survival.

How does a unit go about creating the proper setting and training area? Here are a few ideas:

Pugil stick training is quite suitable for simulating close combat using a rifle with attached bayonet. Football helmets, mouthpieces, lacrosse gloves, and groin protectors are normally used to protect the combatants from serious injury. One end of the pugil stick is colored to represent the bayonet end of the weapon, which is helpful when awarding points for a kill or an injury. The training itself can be held in any open area with squads and platoons pitted against each other in man-to-man bouts. This type of training boosts small unit spirit almost immediately, and unit cohesion is strengthened proportionately.

Dulled and blunted polymer knives can be used for training in bayonet and knife fighting. The blades should be coated with shoe polish or any other marking material that will leave a "fingerprint" when it meets its mark. For safety reasons, the soldiers should wear plastic eye protectors or face-protecting helmets.

This form of combat is difficult to judge, and to come up with a clear winner the trainer should consider using two judges during each bout. This training should start in a gymnasium on a padded floor before being moved outside. At



Soldiers who receive hand-to-hand combat training will be confident that they can take care of themselves in battle.

first, the rules of engagement must be strict and rigidly enforced. Then, as the soldiers gain experience, the tight rules can be relaxed.

Although unarmed combat training is the easiest of all to conduct, it may be the most difficult to control. This training may include boxing, wrestling, oriental martial arts, or any combination of these. Here again, the soldiers should use head protectors, gloves, footpads, and groin protectors. A padded gymnasium floor or an outdoor area covered with

sawdust or sand is an ideal place for this training.

As the training goes on, it will become obvious who needs the most work, and grouping soldiers by abilities can reduce the possibility of injuries. At least two judges or "seconds" should be available during each bout to stop it quickly when time is called.

An actual fight on the battlefield usually lasts less than 15 seconds, and the winner is usually the one who has the training, experience, and confidence that

he needs to act instinctively. Therefore, close combat training should be simple but challenging and realistic. And it should not always be conducted in an open field or a gymnasium. Once the soldiers have progressed beyond the basics, urban combat facilities, trenchlines, and individual fighting positions should also be used.

To aid in realism, the training should not be limited to daytime or favorable weather conditions, because it is not likely that an enemy will surprise you or get

too close to your positions on a warm sunny day. If the training is aimed at conducting noncombatant evacuation operations, for example, pitting one soldier with a pugil stick against two unarmed foes in a dimly lit room is a great stimulator.

Close combat training is an excellent opportunity for an infantry leader to exercise his duties as a commander—to challenge his men and prepare them for combat today so that they will be able to win on the battlefield of tomorrow.

Captain Darryl W. Daugherty commands a company in the 2d Battalion, 29th Infantry Regiment at Fort Benning. He is a recent graduate of the United States Marine Corps Amphibious Warfare School and previously served in various leadership positions in the 1st Battalion, 10th Infantry (Mechanized).

Captain Drew Watson, a U.S. Marine Corps officer, is also a recent graduate of the Marine Corps Amphibious Warfare School. He has served as an infantry platoon leader, company executive officer, and company commander in a reconnaissance battalion. He is now an exchange officer with the British Royal Marine Commandos.

The Bayonet Commonsense Lessons

MAJOR ROLAND J. TISD, JR.

No weapon inspires the infantryman quite like the bayonet. And in this age of sophisticated systems, this simple but deadly weapon, in the right hands, can still decide a battle. To make the most of it, though, Infantry leaders must remind their soldiers of the bayonet's purpose, teach them how and when to use it, and emphasize that it is not just an impressive ornament to be used only when going through an occasional bayonet assault course.

During a recent live fire platoon assault exercise, I saw a platoon leader expertly maneuver his squads through a course that was laid out over difficult terrain. The course itself was infested with numerous "enemy" bunkers that simulated fire with pneumatic machineguns. The soldiers were heavily laden with ammunition but overcame most of the bunkers by using maneuver and high rates of sustained overwatching fire. In some cases, though, the soldiers advanced to within 20 meters of an "enemy" position before they engaged it. As the ammunition be-

gan to run low, it was apparent that if the platoon had been engaged in a real fight, close combat could equate with contact at bayonet point.

After suggesting to the platoon leader

that he should have his men fix bayonets, I noted his surprise at such a thought. Then I watched the excitement level rise as each soldier attempted to respond to his order, "Fix bayonets."



Soldiers who train with fixed bayonets will not hesitate to use them in combat.

As they did so, I noticed several problems:

- Some of the soldiers had difficulty fixing their bayonets.

- The grenadiers discovered that bayonets could not be fixed to their weapons with the barrel of the grenade launcher attached.

- Several improperly assembled bayonets could not be fixed.

- Some soldiers did not fire their rifles after their bayonets were fixed.

The platoon eventually swept through its objective in good order. And in the after action review (AAR) that followed, the soldiers openly discussed the things they did right and those they did wrong. Their comments focused on a number of commonsense lessons concerning the bayonet and suggested that the unit needed additional drill and practice. The soldiers' observations included the following:

- Soldiers must learn to appreciate and respect the M-9 bayonet as a weapon first and foremost, instead of as a fieldcraft tool or wire cutter. Leaders cannot limit their soldiers to using bayonets during the time spent on a bayonet assault course and expect them to gain confidence in its use as a weapon.

- A fixed bayonet should not discour-

age a soldier from firing his rifle. Leaders should routinely have their soldiers fix bayonets on live fire courses or other



ranges so they can become accustomed to firing that way.

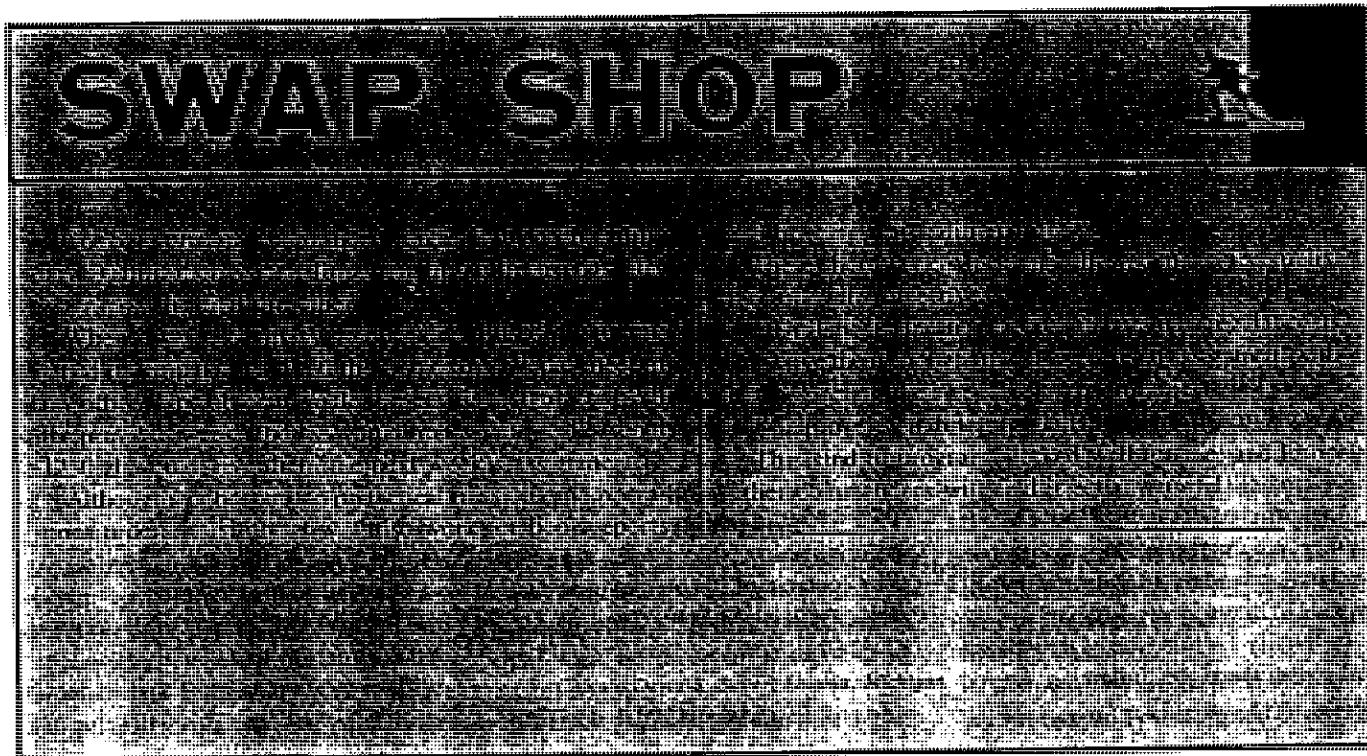
- Under the stress of combat or even

a live fire assault range, otherwise simple tasks are often difficult to execute. If soldiers fix bayonets regularly, therefore, they will be able to perform this simple and basic task more easily in combat.

- To prevent malfunctions and poor performance, all leaders should conduct pre-combat checks of personnel, weapons, and equipment. They should check the M-9 bayonet for maintenance and proper assembly to ensure that the latching mechanism can engage the bayonet lug on the rifle barrel. (The M-9 does not need to be disassembled for routine cleaning and maintenance. In fact, according to the operator's manual, disassembly is not authorized.)

The U.S. infantryman with fixed bayonet epitomizes our service. If leaders encourage and advocate its use on live fire and assault ranges, they will develop soldiers who are not reluctant to use it and officers who will not hesitate, when appropriate, to give the classic command, "Fix bayonets!"

Major Roland J. Tiso, Jr., is executive officer of the 1st Battalion, 21st Infantry, 25th Infantry Division. He previously served as S-3 of two different battalions in the 101st Airborne Division (Air Assault), and commanded a combat support company in Korea. He is a 1973 ROTC graduate of the Virginia Military Institute.



ENLISTED CAREER NOTES



11H AIRBORNE NCOs NEEDED

Infantry/Armor Branch at the Total Army Personnel Command (PERSCOM) is looking for airborne qualified noncommissioned officers in MOS 11H who would like to be assigned to airborne billets with the 82d Airborne Division at Fort Bragg after completing their current overseas tours.

Airborne qualified NCOs stationed in the continental United States (CONUS) who are in non-airborne billets may also volunteer for reassignment to the 82d Division if they have served at least two years time on station.

NCOs stationed overseas who are not airborne qualified but are interested in serving with the 82d Division may apply for airborne training by submitting DA Forms 4187, Personnel Action, through their personnel service centers. Soldiers who are within six to eight months of their dates of return from overseas will be scheduled for airborne training on temporary duty enroute to follow-on assignments to the 82d Airborne Division.

For further information, any MOS 11H NCO may call Infantry/Armor Branch and talk directly with their career advisors. The number is AUTOVON 221-8056 or commercial (202) 325-8056.

RC AND ROTC DUTY

The Infantry/Armor Branch at PERSCOM is looking for qualified senior NCOs for assignment to Reserve Component (RC) or Reserve Officer Training Corps (ROTC) duty.

A major consideration is that a soldier must be in a troop-related assignment immediately preceding an assignment to RC or ROTC duty.

To qualify for this type of duty, a soldier must meet the following prerequisites:

- Be in the rank of sergeant first class, first sergeant, or master sergeant and not currently in an RC or ROTC assignment.

- Have enough time in service left to complete the prescribed tour or be eligible to extend his enlistment or reenlist.

- Have instructional ability and the technical ability to perform duties in his MOS with little supervision.

- Be financially able to maintain his family in a community where Government support facilities (such as hospitals, exchanges, and commissaries) may not be available.

- Have a high school education or recognized equivalent.

- If a sergeant first class, must have completed the Advanced Noncommissioned Officer Course or be eligible to attend.

- Have qualified on his most recent SQT (scoring 80 or above) and have a General Technical score of 100 or higher.

- Have placed consistently in the upper half of his peer group as demonstrated by MOS evaluation and SQT results.

Qualified senior NCOs who would like to volunteer for assignment to RC or ROTC duty may do so by submitting DA Form 4187, Personnel Action, through their personnel service centers. Or they may call Infantry/Armor Branch at AUTOVON 221-8056 or commercial (202) 325-8056.

TRANSFER AND REMOVAL OF DOCUMENTS FROM OMPFs

The Total Army Personnel Command (PERSCOM) has received a number of inquiries recently concerning the removal or transfer of documents from a soldier's Official Military Personnel File (OMPF).

Neither the U.S. Army Enlisted Records and Evaluation Center nor PERS-

COM has the authority to transfer or remove documents filed in an OMPF. Once an official document has been properly filed in an OMPF, it is presumed to be administratively correct and in the file as a result of an objective decision.

Procedures for removing unfavorable information from an OMPF are in AR 600-37, Unfavorable Information, Chapter 7. Procedures for transferring or removing records of nonjudicial punishment are in AR 27-10, Military Justice, paragraph 3-43.

Appeals on Active Army personnel should be prepared and sent directly to the President, DA Suitability Evaluation Board, ATTN: DAPC-MPC-E, Washington, DC 20310-0300.

TRANSITIONING INTO THE RESERVE COMPONENTS

Current Army policy encourages the transition of eligible soldiers into the Reserve Components (RC) so they can continue to serve as members of the Total Army. Service in the RC may be in the Individual Ready Reserve (IRR), the U.S. Army Reserve (USAR), or the Army National Guard (ARNG).

Pretransition counseling is provided to all soldiers about 120 days before their release from active duty. This counseling is conducted on each Army installation by Total Army Career Counselors for all soldiers. The subject matter includes the soldiers' remaining obligation, RC pay and benefits (SGLI, commissary and post exchange privileges, and the like), the availability of assignments in the RC, and retirement potential.

The goal of the program is to provide the Reserve Components (especially the troop program units) with experienced soldiers who are current on doctrine and training techniques. This will serve to in-

crease readiness while reducing training costs.

Soldiers who have questions concerning their transition into the Reserve Components should contact the Total Army Career Counselors on their installations.

OBSERVER/CONTROLLER DUTY

The Infantry/Armor Branch at PERSCOM is looking for qualified senior NCOs in the rank of staff sergeant, sergeant first class, and first sergeant to serve as observer/controllers (OCs) at the two Combat Training Centers (CTCs) in the continental United States (CONUS). These are the Joint Readiness Training Center (JRTC) at Little Rock Air Force Base, Arkansas, and the National Training Center (NTC) at Fort Irwin, California.

To be selected or to volunteer for this duty, an NCO must meet the following prerequisites:

- Be in one of the ranks mentioned above and be a graduate of the Advanced Noncommissioned Officer Course.
- Have enough remaining time in service to complete the prescribed tour or be eligible to extend or reenlist.
- Have instructional ability and no speech impediment and the ability to communicate clearly in English.
- Have no physically limiting profiles, with the exception of wearing glasses.
- Have at least a high school education or a recognized equivalent.
- Have qualified on his most recent SQT (scoring 80 or higher) and have a General Technical score of 100 or higher.
- Have a Secret clearance or be able to obtain one.
- Have a commander's certification that he has passed his most recent Army Physical Fitness Test and that he meets Army weight control tables in accordance with AR 600-9.

To be assigned to the JRTC, an NCO must be airborne qualified, willing to serve on active airborne status, and now serving as a squad leader, platoon sergeant, or first sergeant in a TOE infantry battalion. To be assigned to the NTC, an NCO must be serving successfully as a squad leader, platoon sergeant, or first

sergeant in a TOE mechanized infantry battalion equipped with M113 or Bradley fighting vehicles.

NCOs who are placed on assignment instructions for observer/controller duty will go on temporary duty enroute to attend the O/C Certification Course, which is conducted in two phases.

Phase 1, which lasts for five days, is conducted at the Combined Arms Training Activity (CATA) at Fort Leavenworth, Kansas. This phase covers observer/controller duties and responsibilities, training the force, after action reviews, threat, warfighting doctrine, planning considerations, NBC, and assessing lessons learned.

Phase 2, which is four days long, is conducted for infantrymen at the U.S. Army Infantry Center, Fort Benning, Georgia, and for soldiers of other branches at their branch training centers. This phase provides the observer/controller with information on AirLand Battle doctrine, fundamentals of combat, and offensive and defensive operations.

NCOs in CMF 11 who are interested in volunteering for assignment to either training center may submit DA Form 4187, Personnel Action, through their personnel service centers to Infantry/Armor Branch, PERSCOM. Soldiers in CMF 11 may also call their Infantry career advisors, AUTOVON 221-8056 or commercial (202) 325-8056.

NCO EVALUATION REPORTS

Throughout the Total Army, several hundred thousand Noncommissioned Officer Evaluation Reports (NCO-ERs) are written each year.

The vast majority of the raters who prepare these reports accurately record the performance and potential of their subordinates, but there are a few rating officials who have not rendered them as accurately and objectively.

If a soldier receives an evaluation report that he believes is an inaccurate or unjust evaluation of his performance and potential, or one that contains administrative errors, his report may be a candidate for an appeal.

The governing publications for appeal-

ing an NCO-ER are DA Circular 623-88-1, Chapter 4, and Army Regulation 623-205, Chapter 4. Both publications can be found in the Personnel Evaluations Update.

Anyone who needs more information on the appeal process may write to Commander, Enlisted Record Center, ATTN: PCRE-RE-A, Fort Benjamin Harrison, IN 46249, or call AUTOVON 699-3695 or commercial (317) 542-3695.

ANCOC REINSTATEMENTS

Soldiers who have been eliminated from the Advanced Noncommissioned Officer Course (ANCOC) for academic reasons are encouraged to try again to get this crucial training.

AR 351-1, Individual Military Education and Training, states that a student who has been eliminated from ANCOC for academic reasons may reenter the course when his unit commander and the school commandant determine that he is now prepared to complete the course successfully.

All that is required is the submission of DA Form 4187, Personnel Action, with the following enclosures: a copy of DA Form 1059, Academic Report, and a letter from the unit commander stating that the soldier needs this training for advancement and now has the proper motivation to complete the course.

Applications should be submitted through proper channels to the commandant of the NCO Academy at the soldier's proponent service school.

SPECIAL FORCES COURSE

The Special Forces Assessment and Selection (SFAS) Course, a three-week temporary duty and return course, is designed to assess a soldier's potential to complete the Special Forces Qualification Course (SFQC). Once an applicant successfully completes SFAS, he is scheduled to attend one of the upcoming qualification courses.

Soldiers who are interested in applying for Special Forces should contact the

Special Forces Recruiting Team, Fort Bragg, North Carolina; AUTOVON 239-1818 or commercial (919) 432-1818. The recruiters can answer questions and provide the proper forms.

SPECIAL FORCES ANCOG

The Advanced Noncommissioned Officer Course (ANCOG) for Career Management Field (CMF) 18, Special Forces, is now automated. This allows Special Forces soldiers to attend the course according to primary military occupational specialty and date of rank.

The Army's goal is to have a soldier attend CMF 18 ANCOG within two years of his promotion to sergeant first class.

PERSCOM's Special Forces Branch will no longer delete a soldier's name from an ANCOG list without written notification from his unit.

The following are tentative dates for CMF 18 ANCOG classes through #3-91:

CLASS NO.	START DATE	END DATE
3-90	4 Sep 90	29 Nov 90
1-91	7 Jan 91	4 Apr 91
2-91	6 May 91	28 Jul 91
3-91	8 Sep 91	7 Dec 91

For more information, Special Forces soldiers may call MSG Thomas Rupert, PERSCOM Special Forces Branch, at AUTOVON 221-5497 or commercial (202) 325-5497.

SCHOOL OF THE AMERICAS INSTRUCTORS NEEDED

PERSCOM is looking for NCOs to serve on instructor duty at The School of the Americas at Fort Benning, Georgia.

Volunteers must be Ranger-qualified, in the ranks of sergeant (promotable) to sergeant first class, and Spanish linguists. A Ranger-qualified soldier without the language skill may volunteer to attend the Spanish Linguist Course with an ultimate assignment to The School of the Americas.

Interested soldiers may call the PERSCOM Ranger Team at AUTOVON 221-5493 or commercial (202) 325-5493.

UPDATING AND VERIFYING YOUR PERSONNEL FILE

The following are ways to update or verify the contents of your enlisted personnel file:

- To access the Enlisted Records and Evaluation Center's new 24-hour interactive voice response system, dial AUTOVON 699-3714 or commercial (317)



542-3714. You must call on a touchtone, push-button telephone. The automated system gives you access to the latest information in your personnel file, including the date of your last evaluation report, security clearance status, official photograph, personnel qualification record, and declination and acceptance statements. (See detailed note in this section.)

- To request a copy of your microfiche Official Military Personnel File (OMPF), mail your request to Commander, U.S. Army Enlisted Records and Evaluation Center, ATTN: PCRE-RF, Fort Benja-

min Harrison, IN 46249-5301.

- To schedule an appointment to review your OMPF at the Enlisted Records and Evaluation Center, call AUTOVON 699-3361 or commercial (317) 542-3361. Schedule appointments at least three days in advance.

- To update your official file, have your local personnel service company forward the appropriate documents to Commander, U.S. Army Enlisted Records and Evaluation Center, ATTN: PCRE-FS, Fort Benjamin Harrison, IN 46249-5301. The records center must receive documents intended for review by a promotion or school selection board at least 10 days before the board convenes.

- To update your official photograph, mail two copies of the new photo to Commander, U.S. Army Enlisted Records and Evaluation Center, Fort Benjamin Harrison, IN 46249-5301. You must update your photo when you are promoted to staff sergeant and should update it at least every five years.

- To request the transfer of an Article 15 from the performance (or "P" section) of your official file to the restricted (or "R" section), you must be in the rank of staff sergeant and above. Mail a written request to President, DA Suitability Evaluation Board, ATTN: DAPE-MPC-E, Washington, DC 20310. Rules governing the system are contained in AR 27-10.

REVIEWING YOUR OFFICIAL FILE BY TELEPHONE

A new service called the Interactive Voice Response System, or IVRS, is now available to soldiers and local personnel offices throughout the world, provided they have access to touch-tone telephones.

The system is especially helpful in checking the status of key documents in soldiers' official files before they are considered for promotion or schooling.

Three data bases are available through IVRS—NCO Evaluation Report end dates; security clearance status; and DA centralized selection board information, including NCO-ER end dates, photo dates, personnel qualification record

(PQR) data, and declination/acceptance statements.

To use the system, dial—with touch-tone push-button telephone only—AUTOVON 699-3714, or commercial (317) 542-3714. After a short greeting you will be instructed to enter a complete nine-digit Social Security number. The system can respond to requests for information on five separate personnel files during a single call, provided five Social Security numbers are entered.

After entering a Social Security number, press the pound sign (#) on the telephone. Next, press one of the following numbers to access a data base:

- For complete board information, press 1. This will provide information on the NCO-ER end date, photo date, PQR data, confirmation of receipt if a letter to a board president has been received, and confirmation of receipt if a declination or acceptance statement has been received.

- For latest photo date only, press 2.
- For evaluation report data, press 3.
- For security clearance data, press 4.

After the system has responded to the initial request, you will be advised to enter another Social Security number or to hang up, ending the session. At the completion of the fifth file retrieval, the call will be disconnected.

AIRBORNE SOLDIERS NEEDED

PERSCOM is looking for NCOs in CMF 11 who are airborne qualified and want to be assigned to an airborne billet with either the 82d Airborne Division at Fort Bragg, North Carolina, or the Joint Readiness Training Center (JRTC) at Little Rock Air Force Base, Arkansas, after completing their overseas tours.

Airborne-qualified NCOs serving in non-airborne billets in the continental United States who would like to get into airborne billets, and who are qualified for overseas tours, must first volunteer for reassignment to 12-month dependent-restricted tours overseas. When they receive their overseas assignments, they will be given advanced home base assignments to either the 82d Division or the JRTC.

Non-airborne qualified NCOs stationed overseas who are interested in serving with the airborne community may apply for airborne training by submitting DA Form 4187 through their personnel service centers. Soldiers who are within 6 to 8 months of their DEROS dates will be scheduled to attend airborne training on temporary duty enroute to their follow-on assignments to an airborne unit in the continental U.S.

Infantry soldiers who have questions may contact their career advisors at Infantry/Armor Branch. Telephone numbers are AUTOVON 221-9399/8056 or commercial (202) 325-9399/8056.

WARRANT OFFICER AVIATORS WANTED

The Army is looking for qualified applicants for the Army Warrant Officer Flight Training (WOFT) Program who will be 29 years old or younger at the time of board selection.

More information on the program is available in the recently published WOFT Program booklet. It includes a broad course overview of rotary wing flight training and program application requirements and procedures.

Copies of the booklet are available in local commands or from: Commander, U.S. Army Aviation Center, ATTN: ARZQ-DAP-PO, Fort Rucker, AL 36362-5037.

DRILL SERGEANT DUTY

Soldiers applying for duty as drill sergeants must process their applications through local personnel service centers. The Drill Sergeant Team at PERSCOM often receives applications by express mail from soldiers who fail to enclose necessary documents such as Army Physical Fitness Test cards or mental health evaluations.

Servicing personnel centers will certify that applicants meet the following requirements:

- Soldiers stationed in the continental United States at an installation that has no drill sergeants must have served there

for 36 months before applying.

- Soldiers stationed overseas must apply eight to ten months before their date of estimated return from overseas.

More information is available from the Drill Sergeant Team at AUTOVON 221-8070 or 8394; commercial (202) 325-8070 or 8394.

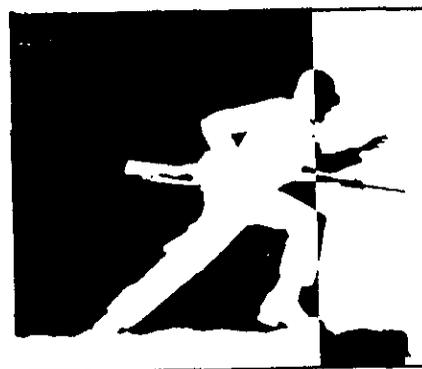
APPLYING FOR NCOLP

Many logistics NCOs in the U.S. Army Reserve have expressed an interest in participating in the Noncommissioned Officer Logistics Program (NCOLP). This program provides specially selected senior NCOs to fill key multifunctional logistics positions throughout the Reserve.

Many of the applications that reach PERSCOM, however, must be returned for additional information or administrative action. The following tips will help an NCO succeed on his first application:

- The first colonel in the applicant's chain of command must endorse the application.
- The application must include proof of security clearance (SECRET or higher).
- The application must show that the applicant is clearly within the height and weight limits established by AR 600-9.
- If the applicant is a staff sergeant, he must be on a current promotion selection list before he can be awarded the "K" specialty skill identifier.

Further questions concerning application procedures or other NCOLP matters should be directed to MSG Lawrence Weese, AUTOVON 226-0274, commercial 202-696-0274.



OFFICERS CAREER NOTES



NOTES FROM THE DEPARTING BRANCH CHIEF

It is that time of year once again when your branch assignment officers are going through a significant amount of turnover. On behalf of everyone who is leaving, especially myself, I want to thank all of you for your support and understanding of the difficult task of meeting the Army's personnel requirements.

There is much discussion about the future of the Army and particularly the infantry. While there is a lot we do not know about the future—and we are at the mercy of worldwide dynamics and, of course, the Congressional budget process—here are some things we do know.

We know that the current personnel reduction programs are inadequate, and the Army has asked for new tools to use in managing officer reductions across a broader spectrum.

We know the Army will be smaller and will have a different mix of units. For the infantry, this means that lighter forces are more likely to stay, as highly deployable contingency forces will be required to execute the broad spectrum of conflict that is envisioned for the 21st Century. Our mechanized forces will not go away, however, and the challenge of full manning with the Bradley fighting vehicle will be an important task for all infantrymen.

The personnel system as we know it today will continue—promotions, schooling, training, and the many other professional opportunities. Training, especially at our combat training centers, will be more important than ever. At the same time, the Army's leaders have committed themselves to do their best to protect the quality of life for our soldiers and their families.

What this means to you is that the best soldiers will be retained and that good officers will be staying. The officers in the

bottom 10 to 20 percent will be the ones who need to be concerned. If you think you may be in that range, contact your assignment officer and he will give you an honest assessment.

Opportunities for personal and professional growth and tough training will continue. Reduced resources will present many new challenges, and we will need the best of the officer corps to deal with those challenges and lead our soldiers. If you like what you've been doing, then stay in the Army with us!

The new lineup of Infantry Branch assignment officers is shown in the accompanying box. We welcome these new officers and encourage you to get to know your assignment officer and communicate with him whenever there is a change in your resume or your preferences.

As I prepare to leave for my new assignment as chief of the Combat Arms Division, Enlisted Personnel Directorate, I want to thank all of the infantrymen in

the field who have gone to the sounds of the guns when asked. To serve our nation as an infantryman has been a great pleasure, and to serve my fellow infantrymen as your Branch chief for the past two years has been rewarding.

The new Infantry Branch chief is Lieutenant Colonel Terry Young, who previously commanded the 2d Battalion, 502d Infantry at Fort Campbell. As a former assignment officer, he will be able to make a positive contribution and represent us well from the beginning. I will greatly appreciate your continued support for him and all the assignment officers at Infantry Branch. (This note was prepared by Lieutenant Colonel Jack Hook before he left for his new assignment.)

ROTC DUTY

The ROTC Cadet Command's mission of training cadets is a critical task that

INFANTRY BRANCH POINTS OF CONTACT		
ASSIGNMENT AREAS	NAMES	TELEPHONE (AUTO/VO)
Branch Staff	CPT Young	22-7078
Branch Co-Technician	MAJ Robert Ms. Hairston	22-57723
Lieutenant Colonel's Team	MAJ Helmig MAJ McCarthy Ms. Troxler	22-63511
Majors Team	MAJ Keeler Mr. Lewis	22-65511
Captain's Team	CPT McNulty CPT Rieck Ms. Emerson	22-45320
Lieutenant's Team	CPT Forbes CPT Armstrong Ms. Young Ms. Parram	22-10207
Future Readiness Office	CPT Phillips Ms. Babylon Ms. Rathgens	22-5520

For commercial calls, use area code 202 and prefix 325 instead of 221.

makes a lasting contribution to the Army. Officers who are interested in ROTC assignments and are eligible for permanent changes of station in the summer of 1991 should contact Infantry Branch this summer.

This year's board to select officers to serve as Professors and Assistant Professors of Military Science is tentatively scheduled to convene in November 1990. The board will consider lieutenant colonels and promotable majors for PMS assignments and branch qualified captains for Assistant PMS assignments.

Nominees should see that the selection board receives their official military personnel files, including college transcripts, current officer record briefs (ORBs), and official photos. The primary requirements for a PMS candidate are a master's degree and a competitive assignment history.

Lieutenant colonels and promotable majors who are interested should contact Major Roberts at AUTOVON 221-7823; captains should call Captain McNulty at AUTOVON 221-5520.

3d U.S. INFANTRY (THE OLD GUARD)

The 3d U.S. Infantry Regiment (The Old Guard) is looking for lieutenants to serve in a variety of positions. Candidates must be at least 72 inches tall and preferably airborne and Ranger qualified with experience as rifle platoon leaders in MTOE (modified tables of organization and equipment) units.

The Old Guard is an MTOE infantry regiment stationed in the national capital region with ceremonial, tactical, and contingency missions. Its soldiers conduct ceremonies for the President, foreign heads of state, and other national and international leaders at the Army, joint services, Department of Defense, and State Department levels. The 3d Infantry routinely performs duties at the White House, the Pentagon, the Tomb of the Unknown Soldier, and elsewhere throughout the capital region, the United States, and overseas.

Lieutenants in The Old Guard serve as rifle platoon leaders, specialty platoon leaders (scout platoon, United States

Army Drill Team, Presidential Salute Guns/Mortar Platoon, Support Platoon, Honor Guard Platoon), executive officers, and staff officers.

Platoon leaders in The Old Guard are responsible for individual training (EIB, SQT, CTT) and collective unit training. They also routinely deploy to the National Training Center, the Joint Readiness Training Center, Fort Stewart, Fort A.P. Hill, the Marine Corps Amphibious Warfare School, and Panama.

Interested officers should contact Captain Armstrong at AUTOVON 221-0207/5516, commercial (202) 325-0207/5516; or the Deputy Commander of The Old Guard at AUTOVON 226-3003, commercial (202) 696-3003.

DA PHOTOS

Your Department of the Army photograph is an integral part of your official file. A new official photo is required every five years.

Army Regulation 640-30 provides guidance for taking photos. Specifically, you should wear basic branch insignia and permanent ribbons and insignia. Wearing unit crests is the only authorized exception.

Take special care to ensure that your uniform fits and that all items on it are displayed in accordance with regulations. Make sure you have a good haircut and use a new blade when you shave. As an extra precaution, take another officer with you to ensure that everything looks right just before the photo is taken.

Some common mistakes are wrinkled or poorly fitted uniform, wearing the infantry cord, improper wear of class four badges, wearing foreign badges, moustache and hair too long, and misspelled name or incorrect social security number.

Make sure you begin the photo process at least six months before your files are due to go before a promotion or school selection board. This will allow time to have the photo retaken if necessary as well as time for it to reach the Total Army Personnel Command (PERSCOM) through normal postal channels.

ASSIGNMENTS IN SOUTH AND CENTRAL AMERICA

Infantry Branch continues to receive critical requirements for lieutenant colonels and majors to serve in Central and South America.

Assignments in that region include joint service duty in the Southern Command (SOUTHCOM) or non-joint service duty in various other locations. In general, tour lengths are 24 months unaccompanied, or 36 months accompanied.

Not all billets require Spanish language ability, but for the jobs that do, Infantry Branch can send a selected number of officers to the Defense Language Institute at Monterey, California.

Officers who are interested in these assignments should contact their assignment officers about 9 to 12 months before they are scheduled for permanent changes of station (PCSs).

ACQUISITION CORPS PROGRAM

Branch qualified infantry captains in Year Groups (YGs) 1980 to 1984 who are interested in volunteering to participate in the Army Acquisition Corps (AAC) program should contact their assignment officers immediately.

Infantry officers who are accepted into the program can expect to attend a fully funded graduate degree program to obtain masters' in business administration and then complete utilization tours as acquisition managers.

The AAC offers a unique opportunity for selected infantrymen to serve in troop units as captains and majors; to obtain masters' degrees; to attend a command and staff college and the Defense Logistics College, and to serve in demanding assignments as infantry acquisition managers.

Members of the AAC will compete with their peers for promotion and for centrally selected military schooling. At the lieutenant colonel level, however, they will compete for project/product manager positions rather than for battalion command.

Only 18 officers from each year group

OFFICERS CAREER NOTES

will be selected to participate in the program. Selection for YG 1983 has already begun, with YGs 1982, 1981, and 1980 to follow.

Any officer who is interested should call Infantry Branch as soon as possible.

ASSIGNMENT OPPORTUNITIES

Infantry Branch has numerous assignment opportunities for branch qualified captains to serve as ROTC instructors, Readiness Group infantry advisors, and recruiting company commanders at the following locations: New Haven, Connecticut; San Jose, California; Butte, Montana; Homewood, Illinois; Mansfield, Pennsylvania; Fort Riley, Kansas; Madison, Wisconsin; Fort Devens, Massachusetts; Fort Dix, New Jersey; Fort Meade, Maryland; and Fort Sill, Oklahoma. Reporting dates are between November 1990 and January 1991.

Additionally, there is a continuing need for branch qualified captains who speak Spanish to serve as instructors at The

School of the Americas; as exchange officers in various Latin American countries; and in selected staff positions with U.S. Army South and Southern Command in Panama. In mid-1991, Branch will also have a requirement to send a captain to the Northern Warfare Training Center.

Interested officers should contact a captains' assignment officer for details.

MAJORS PROMOTION BOARD

The 1990 Army Competitive Category Majors Promotion Board is tentatively scheduled to convene on 21 August 1990 and to adjourn on 5 October 1990.

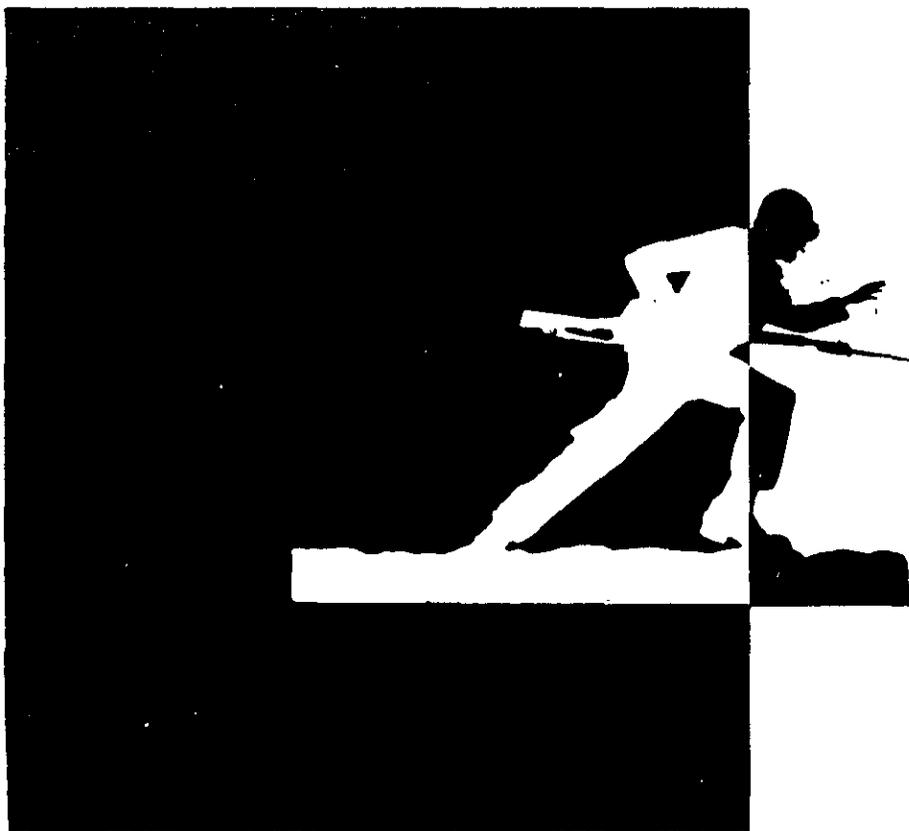
Officers who will be considered include those with active duty dates of rank (ADORs) to captain as follows:

ZONE OF CONSIDERATION	ADOR (INCLUSIVE)
Above the zone	1 Jun 84 and earlier
Promotion zone	2 Jun 84 to 1 May 85
Below the zone	2 May 85 to 1 Sep 86

All officers who will be considered by

this board should obtain and read the PERSCOM message titled "Zones of Consideration for the FY 90 Army Competitive Category Majors Promotion Board." All personnel service centers and military personnel offices should have received this message in May. It contains definitive information on the zones of consideration; guidance on complete-the-record and promotion officer evaluation reports, including the required "through" dates; requirements for promotion officer record brief updates; official photograph data; and information regarding submission of letters to the president of the board. The message also contains information for rating chain officials to use in preparing optional and mandatory reports along with suspense dates for the receipt of documents at PERSCOM.

It is imperative that all officers who are in the zone of consideration see that their records are up to date. Last year's selection rate for infantry officers was 66.1 percent, and it is projected to drop about two to four percent this year.



BOOK REVIEWS



Jane's Information Group has sent us three of its most recently published reference volumes. You will want to become familiar with these:

- **JANE'S ARMOUR AND ARTILLERY**, 1989-90. 10th Edition. Edited by Christopher F. Foss (1989. 788 Pages. \$145.00). After surveying the latest armor and artillery developments throughout the world, the editor employs his usual format to tell us about the actual equipment now in service. He uses a total of nine sections for this purpose, sections that run the gamut from tanks to coast artillery guns to missiles. Addenda update the information to 1 July 1989. He feels that many of the weapons and items of equipment the Soviet Union has introduced in recent years "are much superior to their western counterparts" and warns that "although the Soviet Union is being much more open than in the past, there are still many major items of equipment that have never appeared in any Moscow military parades."

- **JANE'S ARMoured FIGHTING VEHICLE SYSTEMS**, 1989-90. Second Edition. Edited by Tony Cullen and Christopher F. Foss (1989. 599 Pages. \$145.00). This volume restricts its coverage to selected weapons and items of equipment found on such armored fighting vehicles as tanks and personnel carriers. Thus, it offers detailed information on weapons (both main guns and others), ammunition, protection, fire control systems, optics, engines, transmissions, and powerpacks. Its addenda update the information in the main sections to 1 August 1989.

- **JANE'S MILITARY TRAINING SYSTEMS**, 1989-90. Second Edition. Edited by Terry J. Gander (1989. 385 Pages. \$135.00, Softbound). This volume gives detailed information on land-based, naval, and aviation/avionics training systems. Separate sections are used to discuss computer-generated image and visual display systems and aerial target drones and targets. The editor feels, as many do, that in the future "the employment of training hardware will have even more importance than it has at present" and that "the simulator and training aid will have to be used far more than they are now." The reason? He believes that "many modern weapons and weapon systems... are now so expensive that

it is far too costly to use them for any form of training."

- Another interesting weapon book is **GUNS OF THE REICH: FIREARMS OF THE GERMAN FORCES, 1939-1945**. By George Markham (Sterling, 1990. 175 Pages. \$24.95). The author provides a complete compilation of German pistols, rifles, machine-guns, and support weapons used during World War II, and includes chapters on ammunition and how to fire certain of the weapons. The book also has numerous photographs, line drawings, and diagrams; a glossary of terms; a list of manufacturers' codes; and a bibliography.

- A somewhat different type of book is **THE WORLD ATLAS OF WARFARE: MILITARY INNOVATIONS THAT CHANGED THE COURSE OF HISTORY**. Edited by Richard Holmes (A Viking Studio Book. Viking Penguin, 1988. 304 Pages. \$40.00). This is a profusely illustrated chronology of the art and science of warfare from the earliest times to the present day. While it focuses on the major turning points in the evolution of warfare, it also provides new insights into the human factor in war and the various roles wars have played in man's social, economic, and cultural development. The editor and the eight contributors are all well-known British military historians.

- In talking about the human face of war, we call your attention to a book that was published several years ago: **ACTS OF WAR: THE BEHAVIOR OF MEN IN BATTLE**. By Richard Holmes (The Free Press, 1986. 436 Pages. \$24.95). The author, who is noted in the preceding review, has produced an outstanding volume about men at war—why they fight, what motivates them and keeps them going, the influence of religion on them, and their attitudes toward fear and death. A few minor errors in fact may jar a U.S. reader—for example, the U.S. 1st Armored Division was in Italy during 1944, not the U.S. 2d Armored Division—but they are truly minor and do not affect the overall quality of the book's findings. All infantrymen should make it a point to read this one.

- We have also continued to receive books about World War II. We think you will find these to be of considerable interest:

- **THE EXPERIENCE OF WORLD WAR II**. Edited by John Campbell (Oxford University Press, 1989. 256 Pages. \$29.95). This book is an oversized, five-part publication filled with photographs, charts, tables, diagrams, and other graphic devices. Its main themes include the political and military motivation behind the war, the social and economic changes brought about by the war, and the effects of the war on the individual.

- **THE CHRONOLOGICAL ATLAS OF WORLD WAR II**. By Charles Messenger (Macmillan, 1989. 225 Pages. \$32.50). This is a fine reference book put together by a well-known British military writer. It is divided into 13 major sections, each devoted to a particular time period. Within the sections, each two-page spread describes and maps a particular phase in the war. Other graphic devices and a detailed index are most useful to the reader.

- **DUNKIRK: THE COMPLETE STORY OF THE FIRST STEP IN THE DEFEAT OF HITLER**. By Norman Gelb (William Morrow, 1989. 352 Pages. \$22.95). Although this is in no way the complete story of Dunkirk, it is a nicely done narrative history of one of the great events of the early World War II years and its effects on the countries then, or soon to be, at war.

- **STRUGGLE FOR SURVIVAL: THE HISTORY OF THE SECOND WORLD WAR**. By R.A.C. Parker (Oxford University Press, 1990. 328 Pages. \$22.95). This is a relatively short one-volume history of the war; it is also one of the best of its kind we have read in recent years. The author, a British historian, has not tried to do too much. His writing is straightforward and objective, and is concentrated on the key events as he sees them—those events that changed the course of the war and determined its outcome. If you have little knowledge of the war but want to know more, this is the place to start your reading.

- **THE SECOND WORLD WAR**. By John Keegan (Viking Penguin, 1990. 607 Pages. \$29.95). Another fine history of World War II from one of the better known British military historians. His narrative flows smoothly, and his use of major themes to highlight certain aspects of the war adds to

the book's overall value.

• **REEVALUATING MAJOR NAVAL COMBATANTS OF WORLD WAR II.** Edited by James J. Sadkovich (Contributions in Military Studies, Number 92. Greenwood Press, 1989. 225 Pages. \$42.95). Each of the eight essays in this book deals with a navy that played a major role during World War II. In his introduction, the editor outlines the essayists' major conclusions, which, he points out, "if not always orthodox, are based on a thorough knowledge of their subject material."

Here are a number of our longer reviews:

BROTHER ENEMY: THE WAR AFTER THE WAR. By Nayan Chanda (Originally published in hard cover in 1986. Macmillan, 1988. 479 Pages. \$12.95, Softbound). Reviewed by Doctor Joe P. Dunn, Converse College.

While most Western reporters turned their attention from Indochina after 1975, Nayan Chanda, Indochina correspondent for the *Far Eastern Economic Review*, continued to follow the events unfolding in the area. With access to all of the countries and leaders in the region, he is generally considered the most knowledgeable journalist writing about it.

His saga of the Third Indochina War—the confused, murky, and byzantine relations between China, Vietnam, and Cambodia as the former communist allies turned against each other—is a remarkable piece of work. Throughout his compelling, well written narrative, he provides a series of mini-chapter vignettes that trace the story of the wily survivor Prince Sihanouk, who provided the author "dozens of hours" of interviews.

In his conclusion, Chanda argues that the United States has a unique opportunity—and responsibility—in Southeast Asia as the guarantor of a new balance of power in the region. He asserts that the U.S., by playing a more active and imaginative role, can regain its lost prestige and influence, and through a rightful use of diplomacy and economic power, help in the revival of Cambodia.

As many reviewers correctly stated when the original hardcover edition was published, this balanced, comprehensive, insightful volume is the best source on the subject that we are likely to see for a long time.

MORAL ISSUES IN MILITARY DECISIONMAKING. By Anthony E. Hartle (University Press of Kansas, 1989. 180 Pages. \$9.95). Reviewed by Colonel John C. Spence III, United States Army Reserve.

The author, a professor of philosophy at the United States Military Academy, has written

a straightforward and informative book on the environment in which professional military officers must make critical decisions.

The book is written in a style that will enlighten both the layperson and the career soldier on the decision-making processes. The author stresses the fact that the central goal of the military profession is the security of the state. Therefore, the military professional has a legitimate right to engage in acts of violence, possess destructive weapons, and impose discipline on others. Such rights and duties are generally denied to nonmilitary members of society. Thus, for these reasons and others, the military services make up a unique institution and profession, with its own set of values and ethics.

At the same time, the professional military ethic limits the use of the military professional's coercive power in important ways. The author gives us an excellent discussion and analysis of the law of war as set forth in the Hague and Geneva Conventions and points out that the rules contained in those agreements are binding on the U.S. armed forces and are an important part of the ethical norms individual officers are expected to follow.

A series of illustrative case studies adds immensely to the value of the book: As the studies demonstrate, a military officer has a duty to be candid and tell the truth, whether he is on a battlefield counting casualties or testifying before a Congressional committee.

The author concludes by stating that whether formally codified and published or not, the professional military ethic will always require judgment, education, training, and experience.

THE OSS IN ITALY, 1942-1945: A PERSONAL MEMOIR. By Max Corvo (Praeger, 1990. 324 Pages. \$29.95). Reviewed by Captain Rick Ugino, United States Army National Guard.

In recent years, we have seen numerous written works on the operations conducted by the U.S. Office of Strategic Services (OSS) during World War II. This book is one of the better offerings because of the author's personal involvement in the operations he writes about.

He provides an excellent overview of the Italian area, one that was often poorly supplied with men and materiel during the war, and one that was practically ignored after the war.

From early 1942, when the Italian section was founded and staged in Africa, Corvo takes a reader on an up-close and personal examination of the section's operations as they were

planned and executed. By using both first-generation Italian-Americans and Italian exiles, the OSS built the Italian section into a first-rate intelligence gathering tool for the Allied field commanders in Italy. The author also talks about his relations with the British special operations units, with which he worked closely throughout the war period.

The only criticism I can offer is that the author does not include a final chapter to tie together the lessons that his section learned. Still, his is a fair examination of the efforts and activities of an important U.S. military intelligence organization, one of the first of its kind.

U.S. ARMY SPECIAL FORCES A-TEAM VIETNAM COMBAT MANUAL. By Shelby N. Stanton (Paladin Press, 1988. \$18.00, Softbound). Reviewed by Captain F.R. Hayse, United States Army.

As seems the case with all wars, popular or not when they are fought, the farther a nation distances itself from the conflict the more popular it becomes. Such is the case with the Vietnam War, in film, television, literature, drama, and memorabilia. And I believe this book fits nicely in the latter category.

Contrary to its somewhat misleading title, it is little more than a reprint of the 5th Special Forces Group's A-Detachment Handbook prepared in the late 1960s with some additional illustrations, maps, and comments by the author. It is, therefore, more a combined field and garrison SOP for A-Detachments than a combat manual containing specific battle drills, lessons learned, and techniques.

The book does give a more serious historian an honest view of what life was like as an A-Detachment member in the more remote regions of Vietnam in the late 1960s, but it may be of little interest to a lay reader.

MASTER OF AIRPOWER: GENERAL CARL A. SPAATZ. By David R. Mets (Presidio Press, 1988. 430 Pages. \$22.50).

HOYT S. VANDENBURG: THE LIFE OF A GENERAL. By Phillip S. Meilinger (Indiana University Press, 1989. 279 Pages. \$27.50). Both books reviewed by Lieutenant Colonel Jack Mudie, United States Air Force Retired.

Both authors of these biographies of the first two Chiefs of Staff of the independent United States Air Force are career Air Force officers and professional historians. As military pilots themselves, they brought to their tasks an intimate personal understanding of their subject matter and did an exceptional job of chroni-

cling the lives of two great aviation leaders.

Spaatz graduated from West Point in 1914, while Vandenberg followed in the class of 1923, the first to have the option of selecting the Air Service upon graduation. Although both officers were initially well known as **outstanding fighter pilots throughout the small Army aviation world, it seems ironic that their greatest eventual contribution to national security was in the area of bombers—** Spaatz as a pioneer for daylight precision bombing in World War II, Vandenberg for his role in establishing the Strategic Air Command as the country's primary nuclear deterrent force following that war.

While most of the Spaatz book covers World War II, the Vandenberg book is primarily about the Korean War and the preceding two-year period. As such, it is also a story of the sometimes vicious inter-service rivalry over roles and missions, such as the B-36 versus supercarrier funding battle.

In addition to being interesting and well-written histories of air operations in World War II and Korea, both biographies include **many anecdotes of the generals' family lives, revealing both men as thoughtful, caring fathers as well as outstanding military leaders.**

Probably the most significant parts of the books insofar as today's military services are concerned are the budgetary decisions and their effect on manpower and operations. In that respect, even those professional soldiers with only a limited interest in aviation will find both books of great value.

GETTYSBURG: CRISIS OF COMMAND. By Harry Albright (Hippocrene Books, 1989. 297 Pages. \$16.95). Reviewed by Major Don Rightmyer, United States Air Force.

The title of this book is doubly misleading. First, the book is far more than just a study of the Gettysburg campaign. Second, it is not an in-depth examination of the failures or successes of leadership at Gettysburg as the title suggests.

It is, though, a good introductory look at this pivotal Civil War battle, and the author does provide an exceptionally readable and easily understood narrative for any reader who may be looking for a first book on the subject.

In keeping with the book's general nature, there are no footnotes and the maps provide little specific information concerning unit positions or movements. If you are not familiar with the battle and the events leading up to it, this is a good place to start your reading. If you want more, there are better ones available.

THE WAR OF INVENTION: SCIENTIFIC DEVELOPMENTS, 1914-1918. By Guy Hartcup (Brassey's, 1988. 226 Pages. \$43.00). Reviewed by Major Harold E. Raugh, Jr., United States Army.

The opening encounters of World War I were fought by horse-mounted units armed with lances and rifles. Four years later, having harnessed the tremendous power of science and technology, the opponents were able to break the lethal stalemate of trench warfare by using such new developments as the tank, military aircraft, chemical warfare, wireless communications, underwater acoustics, and more effective artillery.

The author, who wrote several books before this one, has thoroughly researched a number of archives to chronicle scientific developments in the era immediately preceding the war and then during the war itself. Although he concentrates on the British experience in organizing and mobilizing their scientists and their subsequent contributions to the war effort, he also tells about scientific developments in Germany, France, Italy, Russia, and the United States. He also includes a chapter on the British efforts to improve their soldiers' health and sanitation, having learned their lesson the hard way during the Boer War.

Although the book is interesting and informative, it is also quite expensive. For that reason, I cannot unreservedly recommend it to the general reader.

LATIN AMERICAN REVOLUTIONARIES: GROUPS, GOALS, METHODS. By Michael Radu and Vladimir Tismaneanu (Brassey's (US), 1990. 386 Pages. \$55.00). Reviewed by Colonel James B. Motley, United States Army Retired.

This handbook, divided into 21 chapters, provides an overview of the major insurgent or terrorist movements in mainland Latin America since the Cuban Revolution. The authors, resident scholars at the Foreign Policy Research Institute in Philadelphia, have published extensively in scholarly journals.

Organizationally, the handbook consists of two major parts. The first part, the shorter of the two by far, discusses such subjects as terminology, definitions, the evolution of political warfare, and new trends and patterns.

The second part presents essential data that serves as a foundation for more serious research. The data is arranged alphabetically by country, with each insurgent or terrorist group identified and discussed under the same subheadings—location, origins, front organization, membership, leadership, ideology, propaganda, views on violence, external sup-

port, and the like. A five-page select bibliography has been included to assist those who want to pursue the subject.

The book will definitely appeal to the specialist rather than to the general reader. Its cost, unfortunately, may well limit its readership.

NUCLEAR ENDINGS: STOPPING WAR ON TIME. By Stephen J. Cimbala (Praeger, 1989. 295 Pages. \$47.95). Reviewed by Captain Stephen A. Johnson, United States Army.

The author's study of nuclear strategy and conflict termination throughout the 1980s resulted in a number of publications. This book appears to represent the maturation of his work.

The author believes conflict termination is a "study not only of interstate relations during conflict and war, but also of intrastate organizational behavior that might contribute to, or detract from, efforts to bring war to a conclusion." He notes that the primary reasons for the study of conflict termination are to improve strategic war planning and to stop a war, should one occur, with as little damage as possible. He also believes the study of conflict termination may have some deterrent value and may acquaint leaders with the problems they may face if deterrence should fail.

This is an important subject, even during the present period when peace seems to be breaking out all over. The book is recommended to students of national policy and strategic studies as well as to their professional counterparts.

THE DEFEAT OF IMPERIAL GERMANY, 1917-1918. By Rod Paschall (Algonquin Books of Chapel Hill, 1989. 240 Pages. \$22.95). Reviewed by Colonel David A. Rolston, United States Army.

In recent years, the vogue in World War I literary efforts has been to recount the events of the war through the words of the common soldier. Letters, postcards, and interviews with veterans have been used effectively by authors such as Lyn Macdonald to transport a reader back through time to relive life at the front.

But while books of this kind have been effective in achieving their aim, for the most part they have avoided analysis or explanation of anything that happened above regimental level. Unfortunately, this approach lends support to the commonly held view that the leaders of the time willingly accepted the inevitability of a war of attrition, and that, by

choice or ineptitude, generals marched tens of thousands of soldiers to their slaughter without trying to find a better strategy.

In this excellent book, we are offered a fresh analysis of why the so-called Great War was fought as it was. The author shows convincingly that leaders on both sides used imagination and creativity to develop new tactics in their efforts to break the stalemate. In fact, a case could be made that to some degree the war of attrition was a reflection of each side's ability to react quickly to the initiatives undertaken by the opposing side.

The author details numerous ways in which leaders on one side or the other used fresh ideas, new tactics, or superior planning skills in trying to swing the advantage to themselves. Each met with some degree of success, at least initially, but none were so effective as to establish a clear and lasting superiority. As a result, the conflict remained bogged down to a costly war of attrition.

This is the first volume in a new series published under the editorial guidance of John S.D. Eisenhower. If this is an example of what the series holds in store, we should be quite pleased with it. Rod Paschall's clear and thoughtful analysis adds to our understanding of the way World War I was fought

THESE GOOD MEN. By Michael Norman (Crown, 1989. 310 Pages. \$19.95). Reviewed by Brigadier General James E. Shelton, United States Army Retired.

This is a special story about infantrymen—in this case, Marines—who suffered through some excruciating combat together some 20 years ago in Vietnam.

At the time, the author was a young Marine corporal. He became an accomplished journalist for the *New York Times*, but subsequently left that work to concentrate on discovering how his surviving ex-comrades had fared.

There is great truth in this book. The author captures the essence of the deep feeling for each other that the experience of combat imprints in those who have been there. It is haunting and profound, yet not necessarily bad. It certainly includes an abiding caring and respect for each other despite the passage of time and geographical separation.

This is a book about emotions and experiences, but it also has its teaching points. The first is that if human beings survive adversity together they will normally be more cohesive and effective together. It therefore supports the theory that dangerous, rigorous, and demanding unit training is a force multiplier. Second, it is about people and how they be-

have, which is the most important subject that would-be leaders can study.

CHAINING THE HUDSON: THE FIGHT FOR THE RIVER IN THE AMERICAN REVOLUTION. By Lincoln Diamond (Lyle Stuart, 1989. 320 Pages. \$21.95). Reviewed by Captain David K. Taggart, United States Army.

During the American Revolution, the British soon realized that the strategic key to the 13 colonies was control of the Hudson River valley, because control of that river would separate the New England colonies from the rest. This would cause all of the colonies serious economic hardships, and they would face possible piecemeal defeat.

George Washington, of course, was intent on denying the British control of the river, and he and his advisors sought a variety of solutions, which included the first military use of the submarine and the torpedo. Their eventual solution was a gigantic iron chain that was stretched across the river to stop British ships under the guns of the fort at West Point.

The author has made excellent use of original letters and diaries in preparing this volume. He includes current site photographs, which also help to make this an excellent guidebook for the amateur historian who wishes to walk the ground.

RECENT AND RECOMMENDED

TANKS, FIGHTERS AND SHIPS: U.S. CONVENTIONAL FORCE PLANNING SINCE WORLD WAR II. By Maurice A. Mallin. Brassey's (US), 1990. 275 Pages. \$27.00.

THE MILITARY: MORE THAN JUST A JOB? Edited by Charles C. Moskos and Frank R. Wood. Pergamon-Brassey's, 1988. 305 Pages. \$30.00.

THE STARS AND STRIPES: WORLD WAR II AND THE EARLY YEARS. By Ken Zumwalt. Eakin Press (P.O. Box 90159, Austin, TX 78709-0159), 1989. 295 Pages. \$16.95.

CHINA: A COUNTRY STUDY. Edited by Robert L. Worden, et. al. Federal Research Division, Library of Congress. USGPO S/N 008-020-01159-2. Fourth Edition, First Printing, 1988. 732 Pages. \$27.00.

THE 9TH AUSTRALIAN DIVISION VERSUS THE AFRICA CORPS: AN INFANTRY DIVISION AGAINST TANKS, Tobruk, Libya, 1941. By Colonel Ward A. Miller. Combat Studies Institute, USACGSC, 1986. 70 Pages. Softbound.

BUSTING THE BOGAGE: AMERICAN COMBINED ARMS OPERATIONS IN FRANCE, 6 June - 31 July 1944. By Captain Michael D. Doubler. Combat Studies Institute,

USACGSC, 1988. 75 Pages. Softbound.

THE ROLE OF AIRPOWER IN THE IRAN-IRAQ WAR. By Major Donald E. Bergquist. Air University Press, 1988. USGPO S/N 008-070-00618-9. 94 Pages. \$3.75. Softbound.

MILITARY PERSONNEL MEASUREMENT: TESTING, ASSIGNMENT, EVALUATION. Edited by Martin F. Wiskoff and Glenn M. Rampton. Praeger, 1989. 211 Pages. \$45.95.

LEADERSHIP SECRETS OF ATTLA THE HUN. By Wess Roberts. Warner Books, 1989. 128 Pages. \$16.95.

HITLER: THE PATH TO POWER. By Charles Bracelen Flood. Houghton Mifflin, 1989. 686 Pages. \$24.95.

THE VETERAN'S GUIDE TO BENEFITS. By Ralph Roberts. New American Library, 1989. 418 Pages. \$4.95. Softbound.

HITLER'S UNDERCOVER WAR: THE NAZI ESPIONAGE INVASION OF THE U.S.A. By William Breuer. St. Martin's Press, 1989. 358 Pages. \$19.95. Softbound.

UNGUIDED MISSILES: HOW AMERICA BUYS ITS WEAPONS. By Fen Osler Hampson. W.W. Norton, 1989. 348 Pages. \$19.95.

CIVIL WAR MANUSCRIPTS: A GUIDE TO COLLECTIONS IN THE MANUSCRIPT DIVISION OF THE LIBRARY OF CONGRESS. USGPO 030-000-00159-1. 409 Pages. \$20.00.

THE PRICE OF ADMIRALTY: THE EVOLUTION OF NAVAL WARFARE. By John Keegan. Viking, 1989. 292 Pages. \$21.95.

CIVILIAN INDOCTRINATION OF THE MILITARY: WORLD WAR I AND FUTURE IMPLICATIONS FOR THE MILITARY-INDUSTRIAL COMPLEX. By Penn Borden. Military Studies No. 80. Greenwood Press, 1989. 177 Pages. \$37.95.

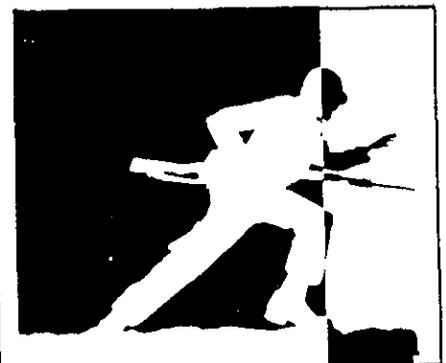
HITLER: THE VICTORY THAT NEARLY WAS. By Bruce Quarrie. Sterling, 1988. 208 Pages. \$19.95.

A CANADIAN'S ROAD TO RUSSIA: LETTERS FROM THE GREAT WAR DECADE. Edited by Doris H. Pieroth. University of Alberta Press (Edmonton T6G 2E8 Canada), 1989. 466 Pages. \$30.00.

EYE-DEEP IN HELL: A MEMOIR OF THE LIBERATION OF THE PHILIPPINES, 1944-45. By William A. Owens. Southern Methodist University Press, 1989. 245 Pages. \$24.95.

MASK OF TREACHERY. By John Costello. Morrow, 1988. 765 Pages. \$22.95.

BRITISH ARMY ON CAMPAIGN, 1816-1902 (4): 1882-1902. Text by Michael Barthorp. Color Plates by Pierre Turner. Men-at-Arms Series 201. Osprey, 1988. 48 Pages. Softbound.



I AM THE INFANTRY

EDITOR'S NOTE: The epic poem "I Am the Infantry" first appeared in the July 1956 issue of the *Infantry School Quarterly*, the forerunner of **INFANTRY**, pages 56-57. Since then it has been modified several times and is used in numerous ways at the Infantry Center and School. It is

printed on graduation programs, for example, and a dramatic taped version, with life-sized figures of infantrymen over the years, is presented. Here is the latest official version of the poem.

I am the Infantry—Queen of Battle! For two centuries I have kept our Nation safe, purchasing freedom with my blood. To tyrants, I am the day of reckoning; to the suppressed, the hope for the future. Where the fighting is thick, there am I...I am the Infantry! FOLLOW ME!

I was there from the beginning, meeting the enemy face to face, will to will. My bleeding feet stained the snow at Valley Forge; my frozen hands pulled Washington across the Delaware. At Yorktown, the sunlight glistened from the sword and I, begrimed and battered, saw a Nation born.

Hardship and glory I have known. At New Orleans, I fought beyond the hostile hour, showed the fury of my long rifle...and came of age. I am the Infantry!

Westward I pushed with wagon trains...moved an empire across the plains...extended freedom's borders and tamed the wild frontier. I am the Infantry! FOLLOW ME!

I was with Scott at Vera Cruz...hunted the guerrilla in the mountain passes...and scaled the high plateau. The fighting was done when I ended my march many miles from the old Alamo.

From Bull Run to Appomattox, I fought and bled. Both Blue and Grey were my colors then. Two masters I served and united them strong...proved that this nation could right a wrong...and long endure. I am the Infantry! FOLLOW ME!

I led the charge up San Juan Hill...scaled the walls of old Tientsin...and stalked the Moro in the steaming jungle still...always the vanguard. I am the Infantry!

At Chateau-Thierry, first over the top, then I stood like a rock on the Marne. It was I who cracked the Hindenburg Line...in the Argonne, I broke the Kaiser's spine...and didn't come back till it was "over, over there." I am the Infantry! FOLLOW ME!

A generation older at Bataan, I briefly bowed, but then I vowed to return. Assaulted the African shore...learned my lesson the hard way in the desert sands...pressed my buttons into the

beach at Anzio...and bounced into Rome with determination and resolve. I am the Infantry!

The English Channel, stout beach defenses, and the hedgerows could not hold me...I broke out at Saint-Lo, unbent the Bulge...vaulted the Rhine...and swarmed the Heartland. Hitler's dream and the Third Reich were dead.

In the Pacific, from island to island, I hopped...hit the beaches and chopped through swamp and jungle...I set the Rising Sun. I am the Infantry!

In Korea, I gathered my strength around Pusan...swept across the frozen Han...outflanked the Reds at Inchon...and marched to the Yalu. FOLLOW ME!

In Vietnam, while others turned aside, I fought the longest fight; from the Central Highlands to the South China Sea I patrolled the jungle, the paddies, and the sky in the bitter test that belonged to the Infantry. FOLLOW ME!

Around the world, I stand...ever forward. Over Lebanon's sands, my rifle steady aimed...and calm returned. At Berlin's gates, I scorned the Wall of Shame. I spanned the Caribbean in freedom's cause, answered humanity's call. I trod the streets of Santo Domingo to protect the innocent. In Grenada, I jumped at Salinas and proclaimed freedom for all. My arms set a Panamanian dictator to flight and once more raised democracy's flag. Duty called, I answered. I am the Infantry! FOLLOW ME!

My bayonet...on the wings of power...keeps the peace worldwide. And despots, falsely garbed in freedom's mantle, falter...hide. My ally in the paddies and the forest...I teach, I aid, I lead. FOLLOW ME!

Where brave men fight...there fight I. In freedom's cause...I live, I die. From Concord Bridge to Heartbreak Ridge, from the Arctic to the Mekong to the Caribbean...the Queen of Battle!

Always ready...then, now and forever. I am the Infantry! FOLLOW ME!



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