

Infantry



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July-August 1989

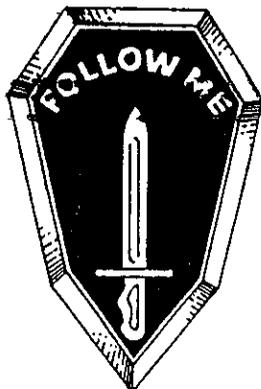
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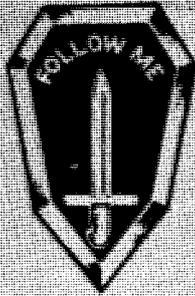
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Commandant's NOTE

MAJOR GENERAL MICHAEL F. SPIGELMIRE Chief of Infantry

Safety During Field Training

As infantrymen and as leaders, we need to make safety part of everything we do, and this is never more important than during field training exercises (FTXs). The potential for death or injury to soldiers and for the loss of equipment is at its greatest when we deploy to the field, and I want to highlight a few of the reasons why our soldiers continue to be injured and tell you how we can prevent this.

The Infantry Safety Manager at the Army Safety Center, Fort Rucker, Alabama, has reviewed accidents that have occurred on recent FTXs, and his findings highlight the necessity for integrating safety into all of our training.

There is a pervasive misconception that the enforcement of safety procedures tends to reduce realism in our training. The issue is not safety versus realism, however; it is simply the enforcement of proper training standards. The accident study has revealed that most accidents during FTXs occur because soldiers do not perform to standards, and that leaders do not enforce the standards.

In one case, for example, a five-ton truck with fuel pods and trailer overturned. The driver was killed, the vehicle was destroyed, and 1,100 gallons of fuel were lost. The facts of the case were that the driver was inexperienced, he was operating alone, and he was fatigued—a combination of conditions his leaders should never have allowed to exist. In a combat situation, such a loss of manpower, equipment, and fuel could mean the difference between victory and defeat.

Another soldier was seriously injured when the overhead cover on his fighting position caved in. The soldier had placed plywood over the position and had covered it with sandbags and dirt without reinforcing it from underneath. The soldier knew the correct way to construct overhead cover, but he chose to take a shortcut. By failing to supervise the task and enforce the standard,

his leaders had allowed him to do it. As a result, the soldier had to be evacuated; the unit lost both a man and a fighting position that were important to the defense. Certainly the same incident could occur in combat, with much more serious consequences.

Some might argue that in combat this soldier would have had the incentive to build the position right. In the heat of battle, however, a soldier will instinctively do what we have trained him to do. If a soldier does not do things right in training, chances are he won't do them right in combat. The difference is that in combat shoddy performance will endanger him and other soldiers as well.

The top five areas of safety concern today involve soldiers who are driving, parachuting, climbing on vehicles, working around hatches and winches, and walking or running.

Driving. Half of all FTX accidents have involved drivers of vehicles, and many of them occurred because a driver was new to the Army or to the unit and was not familiar with its equipment. In several incidents, soldiers had been told to drive vehicles they had never operated before.

Commanders must make sure that drivers operate only the equipment for which they are qualified and licensed. The best starting point must be a solid unit driver training program that includes operator maintenance, driver proficiency, and knowledge of the particular situation. Sustainment training is essential, and we must make sure that we validate our soldiers' driving skills regularly.

Parachuting. The major contributors to parachuting injuries have been improper parachute landing falls (PLFs) and misrouted static lines. Although the proper execution of both tasks is clearly an individual responsibility, this does not absolve leaders of all responsibility. Jump proficiency is a training issue—commanders are responsible for training programs, and leaders are respon-

sible for training.

The problem with PLFs has been a failure to perform to standard, most often a failure to keep feet and knees together. Static line misrouting has resulted from a combination of failures. When performing the one-minute equipment check before jumping, for example, a jumper must pay special attention to the static line of the jumper in front of him. This may require additional training that better defines the jumpmaster's "check equipment and sound off with equipment check." Good exit and body position are equally important in preventing misrouted static lines.

Climbing on Vehicles. Falls from vehicles have contributed significantly to FTX accidents. Soldiers who jump off vehicles or climb around on them invite injury. Again, this is a leadership problem—soldiers who are routinely allowed to jump off vehicles will tend to do so even when they are wearing 60-pound rucksacks. When soldiers are climbing around on tracked vehicles, they must adhere to the "three points of contact" standard; that is, with both feet and one hand or both hands and one foot secure.

The camouflage nets on vehicles are another problem—25 percent of the falls from vehicles have occurred when soldiers became entangled in the netting or were tripped by it. Leaders need to ensure that nets are properly secured and that soldiers understand the risks they pose.

Working Around Hatches and Winches. Hatch and winch injuries can also be eliminated if certain standards are enforced. As a preventive measure, hatches must be inspected during pre-operational checks, and latches must be checked for serviceability. Under no circumstances should field "overrides" be allowed. One example of this practice is latching back the latch devices on the Bradley fighting vehicle. This seems to be a common practice, and it has caused far too many accidents.

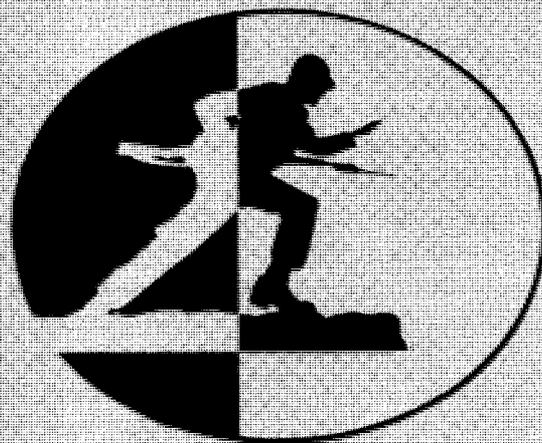
Soldiers must operate winches in a manner that keeps their fingers and hands away from the point where the cables feed in. Most often, accidents have occurred when a soldier's glove caught in a frayed cable and pulled his hand or fingers into the rollers. Too, frayed cables may break under tension, thus creating another serious safety hazard. We must train our soldiers to stand well clear of a cable that is under tension.

Walking or Running. The most common accident to soldiers who are walking or running has been one in which a branch struck a soldier in the face. In many cases, the soldier in front had let go of a branch and allowed it to whip back. This kind of injury can easily be prevented if interval standards are enforced and if soldiers are instructed to be mindful of those behind them and are required to wear eye protection.

I am convinced that FTX accidents can be reduced if leaders emphasize these five areas of concern during pre-exercise safety briefings and conduct follow-up checks in the field. Safety is no accident; it is the enforcing of established standards.

Leaders must watch for unsafe acts and take aggressive action to make on-the-spot corrections. When a leader allows a soldier to deviate from the standards, he establishes a new standard—all too often a lower one. A leader's failure to tell a driver to slow down is the same as telling him it's all right for him to speed.

A host of people are available to help commanders and leaders integrate safety into their training. My principal contacts are the Director of Evaluation and Standards and the Infantry Safety Manager at Fort Benning (telephone AUTOVON 835-5868; commercial 404/545-5868), and the Infantry Safety Manager at Fort Rucker (telephone AUTOVON 558-6595; commercial 205/255-6595). Don't hesitate to call on them for assistance.



INFANTRY LETTERS



SNIPER WEAPON

I may be nitpicking here, but the statement that the M24 sniper weapon system "is to be employed as a force multiplier in low- and high-intensity conflicts where U.S. forces are outnumbered on the battlefield" (INFANTRY News, March-April 1989, page 5) came as somewhat of a jolt.

Specifically, since when do U.S. forces have to be outnumbered in combat to properly, and successfully, employ snipers? Snipers are trained to deliver long-range precision fire on selected targets from concealed positions in support of combat operations; in their alternate capacity as intelligence gatherers, they can be the eyes and ears of the commander.

Regardless of intensity of conflict or numerical superiority, snipers—if employed properly—will perform those tasks. And regardless of the tactical situation, aggressive battlefield leaders will also employ their snipers for the tremendous psychological damage they can inflict upon the enemy—good value in any war.

JOHN W. COLEMAN
Boulder, Colorado

AERIAL PHOTOGRAPHY

As an Intelligence officer trained in aerial photography, I would like to comment on Sergeant First Class John E. Foley's generally good article "Aerial Photographs" in the March-April 1989 issue of INFANTRY (pages 38-39).

While he makes some excellent points about the advantages of "do-it-yourself" aerial photography to a tactical unit, I don't think he goes far enough in discussing the realities of trying to use it in combat.

The first major consideration is the fact that it must be done from a helicopter.

Helicopters, in most units, are not available on call, and arrangements have to be made in advance. Also, in a hostile environment, aerial photography would be a highly dangerous mission, even for a high-performance aircraft. A helicopter, flying low and slow to take pictures, would be a sitting duck. This would mean that any attempt at photographing an enemy-held objective from the air would have to be made with extreme caution.

A high oblique shot might be taken at a comparatively safe distance, but such a shot would offer little that could not also be seen from a high hill, if one was available. A vertical shot of an enemy-held position would be suicide.

One must also consider the logistics of getting 35mm film developed. Most large units can do this, but it would be best to coordinate with the S-2 beforehand to get film developed in the field. I would then recommend that Sergeant Foley include this capability on the next FTX to see what kind of turnaround he might get. If it takes too long, it might not be worth the trouble. He might also find out if his tactical lab can develop color film.

If he can get his film developed quickly, I would recommend that he not limit himself to aerial photography. Photographs taken by scouts or from elevated observation positions can also be useful.

Polaroid photos, unfortunately, are not the answer. The quality is pretty poor, which means that details from an aerial photo would be difficult to pick out, and the cameras would not be advisable for ground shots because they make a lot of noise (as do autowind cameras).

A final note: When using a map to determine the scale of a photo, I would recommend against using something as changeable as a body of water, as Sergeant Foley does in the article. Lakes and reservoirs change sizes drastically during the year, and are also affected by such factors as annual rainfall and local water usage. It is better to use the distance be-

tween fixed points such as road intersections to determine scale.

Within the constraints I have mentioned, do-it-yourself photography can be an excellent tool for a field soldier.

WALTER T. NELSON
CPT, Military Intelligence, USAR
Santa Monica, California

MOMENTS IN HISTORY

The reputation of Brigadier General S.L.A. Marshall as a military historian and an analyst has recently come into question.

Roger Spiller, in "S.L.A. Marshall and the Ratio of Fire" (*Royal United Services Institute Journal*, Winter, 1988) questions Marshall's conclusion—from his *Men Against Fire*—that not more than 25 percent of U.S. soldiers fired their weapons during combat in World War II. And Fredric Smoler questions Marshall's methodology in "The Secret of the Soldiers Who Didn't Shoot" (*American Heritage*, March 1989) and raises serious questions on Marshall's credibility in other areas.

Marshall always based his credibility as a military commentator on his experience as a combat leader in World War I (see *The Armed Forces Officer* and numerous other works). In his autobiography, *Bringing Up the Rear*, Marshall states that he ended the war as an infantry lieutenant in a foxhole on the front lines. Smoler says that, according to surviving official documents, Marshall had been assigned to the 315th Engineers, 90th Infantry Division, but that on 11 November 1918 he was attending an NCO school behind the lines.

The actual facts of what went on that day have long been available in World War I division histories. These histories, published immediately after the war, contain a wealth of historical information, as

well as extended rosters of officers. They do not support Marshall's claim.

Marshall says that he toasted the end of the war with Colonel Reeves, a brigade commander from the 89th Division, near Stenay at 1111 hours on 11 November. Stenay was the last town captured by the AEF, but the 353d Infantry, which Colonel Reeves was then commanding, had moved out at 1000 hours to take Stenay. The Germans officially protested this action, which they claim continued until after the 1100 armistice hour. Since his regiment was advancing at the time, it seems highly unlikely that Colonel Reeves was drinking a toast with anyone in a foxhole.

Stenay was actually on the division boundary between the 89th and 90th Divisions. There was a great rivalry between the divisions, and both division histories imply that the 89th took Stenay to secure billet and bath facilities to be used after the armistice.

The 89th Division history contains a roster of all the officers who served with the division overseas, and Marshall's name does not appear on it. The 90th Division history contains a list of all officers who were serving in the division as of 11 November 1918, and Marshall's name does not appear there either.

Marshall used his Armistice Day story to sustain his claims to leadership ability and tactical expertise. Even a quick review of material easily available at the Infantry School library shows that Marshall fabricated his claim of being a combat officer during that war.

Obviously, then, there is a real need for continued analysis of Marshall's works. How well they will stand close scrutiny and the test of time remains to be seen.

CAPTAIN DAVE TAGGART
Fort Benning, Georgia

MUSEUM IN LUXEMBOURG

A new museum is being founded in the southern part of Luxembourg at Differdange to depict the World War II liberation of Luxembourg and the Battle of the Bulge. The museum is intended to highlight the sacrifices and valor of units and

individuals to the greatest possible extent.

The native Luxembourger who owns the property has received the approval of the Ministry of Defense to open the museum. The site includes a number of buildings and a large collection of U.S. Army vehicles of World War II vintage, including an M4 Sherman tank, weapons, communications equipment, and support material.

Additional support is needed from the United States and other sources in the form of World War II films, historical documents, photographs, and anything else that participating units might provide for display.

Recognition and credit, both in writing and in an appropriate manner in the museum when it opens, will be given to all who lend support.

Anyone who wants additional information may write to me at 5012 Mosby Road, Virginia Beach, VA 23455.

THEODORE R. LOWMAN
U.S. Army, Retired

CONTRACT TRAINING

I am troubled by the extent to which civilian institutions are being used to train our soldiers. With all that commanders have to do—the reports, counseling, military justice, ITEP, AMTEP, METLs, and battle focuses—there is little wonder they actively seek expert help with training their soldiers. If the source of assistance happens to come from outside the company, that's great. And if soldiers can gain valuable college credit for their efforts, then better still.

Private educational institutions are eagerly cashing in on lucrative command-sponsored education contracts; our soldiers are earning college credit and promotion points. And I take no issue with these systems so long as they are part of the Army's Continuing Education System.

But when it comes to mission-related and warfighting tasks, officers and non-commissioned officers have an inherent responsibility to train their men themselves. They draw their pay as trainers and mentors to their subordinates. When they contract with a university to train

their soldiers in military map reading or in skill qualification test preparation, they abrogate this responsibility. They are saying that they lack the will and resolve to tackle the training issue. And when they agree to dedicate their P2 mission training dollars to this kind of training, they are asking the taxpayers to pay for it twice—once in leader cost and again in educational costs to contractors.

We need not throw the baby out with the bath water. It is to our benefit to offer and to subsidize civilian education for our deserving soldiers. Some examples of valid educational expenditures are courses in such fields as the sciences, mathematics, biology, history, or other electives that will lead to college degrees. And when the necessary knowledge does not exist in the unit, civilian educators are invaluable in providing "train the trainer" instruction during the fielding of some of our high-technology systems.

But please note that I said "train the trainer," not all the soldiers. Our soldiers look to us, their leaders, for expertness and guidance. Unit cohesion, bonding, and respect come from well planned and well delivered training. When the bullets start flying, I do not expect to see a college professor with our soldiers helping them maintain their weapons or calling for fire—and neither do the soldiers. The cost to unit combat effectiveness of not actively training our soldiers ourselves is too high to contemplate.

JOHN F. IRELAN
CPT, U.S. Army

KENTUCKY BONUSES

The Commonwealth of Kentucky recently enacted a law providing for the payment of bonuses to Kentucky veterans of the Vietnam War.

Veterans who are entitled to receive a bonus include those from Kentucky who served in Vietnam between 1 July 1958 and 15 May 1975. They can receive \$200 for each month of service, up to \$500. Those who were in active service with the armed forces at least 90 consecutive days, other than for training, but not in Vietnam, between 5 August 1964 and 1

May 1975 are eligible for \$15 per month up to \$300.

Application forms are available at county clerks' offices, Department of Employment Services field offices, and each National Guard armory in Kentucky. Applications must be postmarked by midnight, 28 February 1990.

For further details on eligibility and application procedures, interested persons may call (502) 564-8468 between 0830 and 1630 (EST), Monday through Friday, or write to the Department of Military Affairs, Division of Veterans Affairs, EOC Building, Boone National Guard Center, Frankfort, KY 40601-6168.

LARRY L. ARNETT, Director
Division of Veterans Affairs

WORLD WAR II ENCYCLOPEDIA

The publishers of a compact encyclopedia on World War II in Europe are seeking contributors of articles of 100 to 4,000 words in length.

Garland Publishing, Inc., of New York City, is soliciting writers who can cover

subjects such as the leaders, organizations, equipment, tactics, and battles of the war.

Anyone who is interested in contributing should contact me at Am Alten Turnplatz 9, D6652 Bexbach, West Germany.

DAVID T. ZABECKI
MAJ, Field Artillery
USAR

SHAEF VETERANS ASSOCIATION REUNION

The SHAEF Veterans Association (European Theater, World War II) will hold its Fifth Annual Reunion in Arlington, Virginia, at the Crystal City Marriott, 20-22 October 1989.

Anyone who would like additional information may write to me at 7 Slade Avenue, Apt. 415, Baltimore, MD 21208; or call (301) 486-3633.

HOWARD BOWERS

ETOUSA REUNION

The Second National Reunion of the

European Theater of Operations, Headquarters Command and attached units will hold its Second National Reunion in Arlington, Virginia, at the Crystal City Marriott, 20-22 October 1989.

Anyone who is interested may write to me at P.O. Box 42, Fair Haven, NJ 07704; or call (201) 842-4206, for additional information.

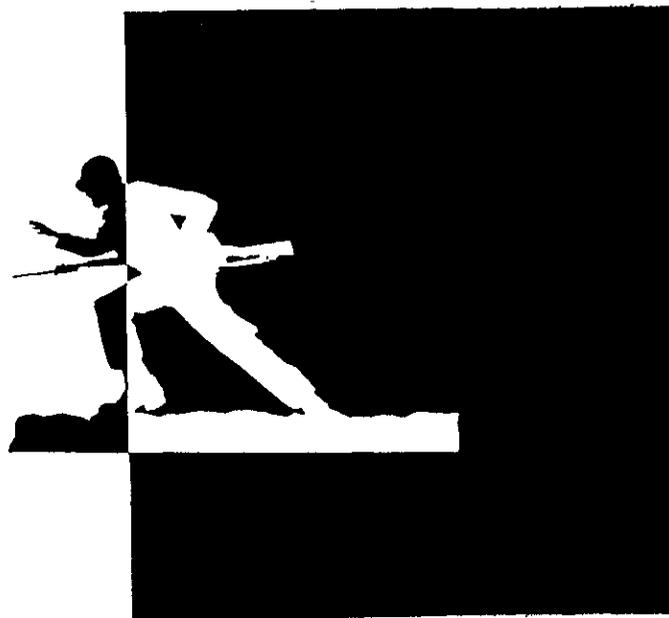
ALLEN PETERSEN

ALAMO SCOUT REUNION

A reunion of the Alamo Scouts of the 6th U.S. Army, World War II, will be held 4-8 October 1989 at the Doubletree Inn, 8250 North Central Expressway, Dallas, Texas. (See "Alamo Scouts: Lessons for LRSUs," by Major Billy E. Wells, Jr., INFANTRY, May-June 1989, pages 26-32.)

Anyone who is interested may contact me at 1700 Commerce Place, Suite 1200, Dallas, Texas 75201; telephone (214) 742-9183.

WILLIAM E. McCOMMONS
Convention Chairman



INFANTRY NEWS



THE INFANTRY ISSUES and Lessons Learned System consists of a software package and Infantry database that runs on IBM-compatible personal computers. (See "Infantry Issues and Lessons," by Jan Chervenak and Eric J. Lynam, INFANTRY, July-August 1988, pages 11-12.)

The system provides a current source of unclassified, Infantry-related observations and issues from NTC rotations, major exercises, military operations, special events, unit initiatives, historical sources, and TRADOC-sanctioned unit visits. It is available to infantry units, battalion level or higher, in the Active Army, Army National Guard, or Army Reserve, and is mailed only to unit addresses.

The Infantry School can now make copies of the database on 3½-inch microdisks as well as on 5¼-inch disks. To obtain copies, units may mail either six blank 3½-inch disks or ten blank 5¼-inch disks to Commandant, U.S. Army Infantry School, ATTN: ATSH-ES, Fort Benning, Georgia 31905-5420.

Questions concerning the package may be directed to the Infantry Hotline, AUTOVON 835-7693, or commercial (404) 545-7693.

THE INFANTRY SAFETY Lessons Learned database is an Infantry School effort to help commanders and leaders meet their responsibilities for conducting safe training and operations.

This useful information is available to the field through two user-friendly databases that can be searched by subject area. One method of access is the Infantry section of the Safety Information Library in the Army Safety Management Information System (ASMIS). This is a modem-accessed database that is continuously updated and available through personal computer or installation safety offices.

The second way to obtain the information is through the Infantry Issues and Lessons Learned database (see item above).

More information is available through the Infantry Hotline, AUTOVON 835-7693, or commercial (404) 545-7693.

THE U.S. ARMY OFFICER Candidate Alumni Association will hold a general membership meeting at Fort Benning, Georgia, 30 August-1 September 1989. The planned activities include a business meeting, military demonstrations, a visit with officer candidates in their battalion area, a "Turning Blue" Senior Status Review, and a banquet.

At the business meeting, a new constitution and by-laws will be presented for the members' consideration. This will give members an opportunity to help decide what the association will do in the future and how it will operate. There is still time for new members to join and attend the meeting.

Three types of membership are available:

- Active memberships for persons of any branch of the Army who graduated from the Officer Candidate School (OCS) at Fort Benning, Georgia, or from the Ground General School at Fort Riley, Kansas, and who subscribe to the purposes for which the association was formed.

- Associate memberships for officers who did not graduate from OCS but who served as cadre at the school at Fort Benning or Fort Riley, and who subscribe to the purposes for which the association was formed.

- Corporate memberships for corporations that subscribe to the purposes for which the association was formed and who pay an annual membership fee determined by the Executive Council.

Current dues for active and associate members are \$10 for one year or \$100 for a lifetime membership.

Further information can be obtained from the Secretary, U.S. Army OCS Association, P.O. Box 2192, Fort Benning, GA 31905.

ADVANCED COMBAT RIFLE (ACR) prototypes are now being tested by the Army, and a new rifle could be in the hands of soldiers as early as 1995.

The ACR is still in the concept and design phase at the Armament Research, Development, and Engineering Center, Picatinny Arsenal, New Jersey. Four prototypes are undergoing a one-year period of extensive engineering, safety, and performance testing.

Engineering and safety tests were initiated in early April 1989 by the Army's Combat Systems Test Agency at Aberdeen Proving Ground, Maryland, and ran through May. A follow-on field experiment will be conducted from August 1989 through April 1990 at Fort Benning, where the Army and Air Force will test the weapons under simulated combat conditions on a specially designed range. As a control measure, the Army's M16A2 rifle will be tested alongside the other weapons.

The four prototype weapons were developed by AAI Corporation, Colt Industries, Heckler & Koch, and Steyr-Mannlicher:

- The AAI weapon, a gas-operated, magazine-fed flechette firing rifle, is of the more traditional, full-stock design. Its long and unobscured upper surface helps the shooter point the weapon. The major internal mechanism modification is an entrapped gas operating system. With this design, gases enter a cylinder through the gas port in the barrel and act upon a piston to provide the energy for operation.

The AAI projectile is a 10.2-grain finned steel dart, or flechette. The shaft

of the flechette has a diameter of roughly $\frac{1}{16}$ -inch diameter and a length of approximately $1\frac{3}{8}$ inches, with fins at the rear end and a sharpened point at the front.

• The Heckler & Koch weapon is a gas-operated weapon in a bullpup configuration that uses caseless ammunition. It features a four-position selector switch—safe, semi-automatic, three-round salvo burst, and fully automatic.

The optic of the weapon is built into the carrying handle and is not removable. The day optic provided has a 1:1 magnification for short ranges and a 3.5:1 magnification for ranges beyond 300 meters.

The ammunition is of square cross section about $\frac{5}{16}$ -inch on a side by roughly $1\frac{1}{4}$ inches long. Because of this shape, a single-row magazine of 50-round capacity is used. The magazine, being quite long, is affixed to the weapon on top of the barrel and serves as a pointing aid the shooter can use during rapid engagements. The 4.92mm projectile is fully telescoped within the propellant body and held in the machined cavity by a plastic end cap.

• The Steyr-Mannlicher is a bullpup-style 5.56mm weapon that features a rising chamber mechanism and a slide-initi-

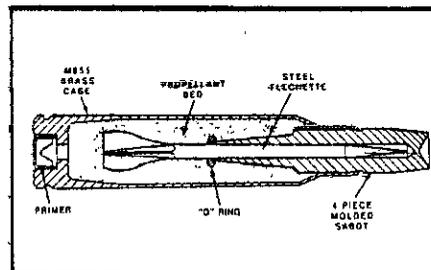
ating round. One of its major features is a stock "well" at the muzzle so that it retains the ability to use finned muzzle launched ordnance. A long shotgun-style rib and carrying handle along the top surface serves as a pointing device for rapid target engagement. The iron peep sight is removable and is interchangeable with the company's preferred day optic sight.

The plastic-cased flechette round is approximately $\frac{3}{8}$ -inch in diameter by $1\frac{3}{4}$ inches long.

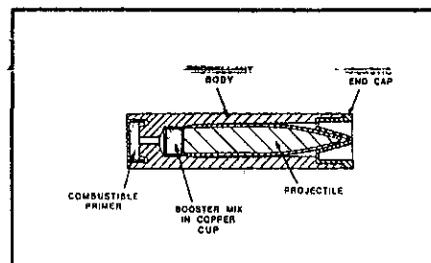
• The Colt Industries weapon is an air-cooled, gas-operated, magazine-fed derivative of the current M16A2. The vari-



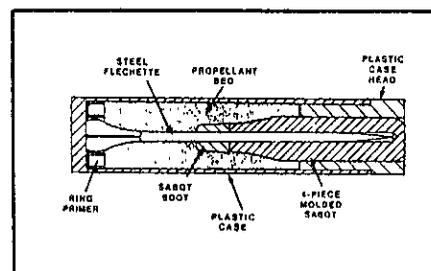
AA1 Rifle and Cartridge



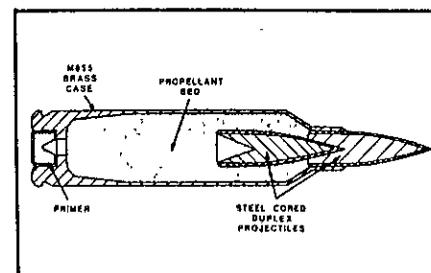
Heckler & Koch Rifle and Caseless Cartridge



Steyr-Mannlicher Rifle and Cartridge



Colt Rifle and Duplex Cartridge



ations stem from extensive human engineering as well as an interchangeable duplex ammunition round.

The newly designed contoured hand-guard includes a heat resistant inner shield, air cooling vent holes, a front-end hand restricting ring, and an aiming/pointing rib on the upper surface for quick target engagement. The pistol grip is similar to that on the M16A2, with additional length and a different profile for added comfort.

The telescoping buttstock incorporates a cheek-piece on both sides and allows for an adjustment of pull length to fit individual soldiers.

The Colt weapon fires the standard 5.56mm M855 NATO round as well as the Colt-Olin developed duplex ammunition. Both ammunition types use the same M855 brass case.

THE INTEGRATED Individual Fighting System (IFS) is being developed by the U.S. Army Natick Research, Development, and Engineering Center. It consists of three new equipment items, the tactical load bearing vest, the large field pack with internal frame, and the extreme cold weather sleeping system.

The goal of the program is to reduce weight and bulk while improving the comfort and efficiency of the soldier. This goal has been accomplished through reductions in the weight of materials and improvements in the distribution of a soldier's load. Two of the components, the pack and the sleep system, are based on commercial items that have been modified to meet the needs of the combat soldier.

The tactical load bearing vest is designed to be a more effective method of transporting the fighting load. It will replace the present combat suspenders and ammunition carriers, and allows a more even load distribution over a soldier's upper torso, closer to the body's natural dynamic center of gravity. This increases comfort and load stability.

The ammunition and grenade pockets are permanently attached and have a capacity of six 30-round magazines and two fragmentation grenades. The vest is a "one-size-fits-all" design.

The large field pack with internal



Large Field Pack (left) and Combat Patrol Pack

frame, which will replace the large ALICE rucksack, is being developed as a more efficient method of transporting the mission and existence loads. It has an internal frame and a narrow profile that improve the center of gravity by 27 percent over the ALICE rucksack. The new pack system offers a fully adjustable suspension that will permit a soldier to position it where it best suits his body size.

The cover can be removed and worn as a combat patrol pack that has 1,200 cubic inches of capacity for use on missions of short duration. In addition, for the first time, a sleeping bag compartment has been included to help protect the bag and to overcome the present inconvenience of tying the bag to the outside of the field pack.

The extreme cold weather sleeping system, made entirely of synthetics, meets

the requirements of providing four hours of sleep at -60 degrees Fahrenheit through the use of the insulating layers of the extended cold weather clothing system, which soldiers will wear in layers as needed to supplement the sleep system.

The sleep system, which will replace the standard extreme cold weather sleeping bag, weighs nine pounds—one pound less than the standard sleep system—and has 25 percent less bulk. It has a lightweight continuous filament polyester insulated sleeping bag that dries faster than a down bag and performs better even when it is wet. The removable Gore Tex cover improves the bag's environmental protection by keeping it dry and resisting the wind.

The Integrated Individual Fighting System was type classified in June 1988.

THE INFANTRY BOARD tested the Precision Gunnery Training System (PGTS) for the Infantry School and the U.S. Marine Corps in September and October 1988. The purpose of the test was to assess the effectiveness of the PGTS and also the test programs of instruction (POIs) in training TOW gunners. PGTS is a possible replacement for the M70 TOW training device now used in the POI.

The current TOW gunnery training POI does not provide an indicator of live fire performance. In addition, the M70 equipment is difficult to maintain because of insufficient repair parts and the wear and tear associated with the device's continual use.

The test included both an indoor and an outdoor PGTS for evaluation. The indoor PGTS uses a standard TOW II launcher with a special sight unit that replaces the standard TOW sight. Simulated target engagements (battlefield noises, targets, missile flights) are depicted in the special sight unit.

The device uses scenarios that were previously filmed and recorded on video disks. A soldier can hear the simulated blast of a TOW and the "singing" of the wire through a headset. The instructor can see the same engagement on a video monitor and can critique the gunner's performance on various scenarios by using the instructor console.

The outdoor PGTS is similar to MILES in that it uses a laser emitter mounted inside the TOW II launch tube. A retro-reflector assembly can be mounted on any type of target at any distance up to the TOW II's maximum range. The instructor monitors the gunner's skills in target engagement and tracking by viewing a digital display panel.

Ninety gunners were used to evaluate the test POIs: 20 Marines and 40 soldiers who had a limited amount of TOW training and 20 Marines and 10 soldiers who were experienced TOW gunners.

The tests were conducted in two phases using a different POI for each phase. The Phase I POI included both the indoor and the outdoor PGTS; the Phase II POI used the indoor PGTS only.

At the completion of each phase of training, each gunner fired one inert TOW missile at a flanking target moving at 15 kilometers per hour at a range of 1,950 meters. Live fire performance hit data was collected and the overall percentage of hits was computed. Data was also collected on human factors, safety, training, reliability, availability, and maintainability.

Although the overall TOW live fire results by POI group were acceptable in both phases, the scores the gunners achieved on the PGTS did not accurately predict live fire results. Both the indoor and outdoor versions had reliability problems. Dust and grit contaminated the electronic components of the indoor PGTS. The outdoor version consistently malfunctioned when the M80 blast simulator was fired, and it was also adversely affected by inclement weather. Moisture fogged the mirrors on the outdoor components, and these items had to be disassembled and wiped clean. These problems were considered by the contractor and proposed fixes have been approved.

The instructors' comments were favorable concerning the use of the PGTS as a training aid in TOW gunnery.

The Infantry School and the Marine Corps will use the test results to support decisions in developing training strategies

and in obtaining appropriate training devices.

AN AIR ASSAULT School for National Guardsmen has been established by the Oklahoma National Guard, and it can be used by the Guard units of other states as well.

Before the school was started about a year ago, the Guard's soldiers—officer or enlisted—who wanted air assault training had to compete for a limited number of slots in the Active Army's air assault schools.

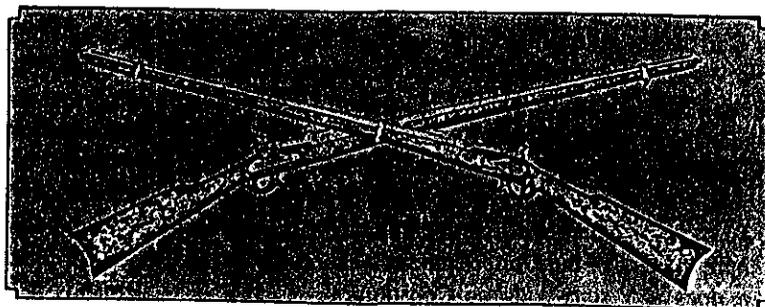
In its first year, Oklahoma's school graduated 448 students, and plans have been developed to offer classes for up to 1,400 students during Fiscal Year 1990.

Located at Camp Gruber, a former World War II training post near Muskogee, Oklahoma, the school has an obstacle course, a one-mile running track, three towers—15-foot, 34-foot, and 60-foot—for rappelling, and landing zones for practical exercises. It was accredited by TRADOC in August 1988.

Guardsmen in any MOS who want to apply for the school should fill out NGB Form 64 and forward it through command channels to the school's branch of their state headquarters.

THE M16A1 RIFLE GRIP (NSN 1005-00-056-2250) is no longer being procured by the Defense Construction Supply Center. The current M16A2 rifle grip (NSN 1005-01-148-4805) is the one units should requisition.

Any unit ordering this item will also need to order a machine screw (NSN 5305-01-268-1191). The washer (NSN 5310-00-527-3634) can be used on either grip.



PROFESSIONAL FORUM



On Loyalty

MAJOR ROBERT B. ADOLPH, JR.

A senior officer once told me this true story: While serving in Vietnam as a captain in command of a rifle company, he faced the ultimate test of loyalty. He was given orders by his battalion commander that would soon take his unit into combat. But after hearing the operations order, he perceived tactical flaws in his boss's plan and emphatically told him why. The battalion commander chose to discount his objections and ordered him to comply. When the combat operation had been executed, many of the soldiers within the captain's command were either dead or wounded.

The captain in this story did what many of us would do: After voicing his honest objections to what he felt was a flawed plan, he loyally executed his orders. But was he right? And can "right" be measured in terms of lives alone?

These questions beg for answers, but no meaningful answers are possible. We can only make subjective judgments. Another question comes immediately to mind. Was the battalion commander's judgment really wrong or as Carl von Clausewitz might have asked, "Was he caught in the fog of war?" After all, the conduct of war is calculated risk in which not all possibilities can be foreseen. Or was the battalion commander, in this instance, just unlucky?

There is another question here that must be examined: To whom does a subordinate commander owe his greater

loyalty in the situation described? To his commander or to the soldiers he commands? These questions strike at the very heart of command, and yet they are rarely examined in contemporary military literature. And since the discussion of loyalty is often as emotional and personal as it is professional, most of us have deep feelings concerning the subject.

Loyalty to those of us who share the profession of arms is the most important, most often misunderstood, and without question the most enigmatic of the traits considered essential in a good soldier. No military leader can hope to train an effective unit in peacetime or wartime without the loyalty of his subordinates. But what is this quality and why is it so important?

TIE THAT BINDS

A working definition of loyalty for the purposes of this article is the following: The patriotic, professional, and emotional tie that binds a person (a soldier) to something (the United States) or someone (a soldier's leaders). Loyalty is demanded of soldiers of all ranks. But loyalty to whom or what?

First, as soldiers we all swear an oath to "support and defend the Constitution of the United States." Therefore, let us start with the Constitution.

We as soldiers owe our first loyalty to

the ideals embodied in this document. These ideals are often summed up by the single word "liberty." We elect politicians to govern us and to "protect and preserve" the liberty that we consider so precious. The Congress, with the authority vested in it by the Constitution, raises armed forces as the instrument best suited for protecting and preserving that liberty. The Constitution also appoints the President as the Commander in Chief of those armed forces. And so begins the chain of command.

But the thread that binds us all is the thread of loyalty that is best represented in the first three words of the Constitution, "We the people." A soldier's loyalty starts here. We as soldiers are the instruments of that document and of the collective will of our people. On the basis of the ideals set forth in the Constitution, then, we risk our lives and *subordinate our wills* to the execution of the military means that are deemed appropriate to the ultimate preservation of the republic.

But since all human beings are flawed, so is all human endeavor, especially in the conduct of war. As a result, there are no perfect documents. The Constitution has been modified (clarified) many times by the Bill of Rights and by the decisions handed down over the years by the Supreme Court. And there are no perfect commanders. Yet our profession demands that we strive for perfection because lives hang in the balance.

Like a surgeon, a combat leader can ill afford to make mistakes. But unlike the surgeon, who has a quiet operating room, years of training and experience, and generous resources, the combat leader often conducts his operations under the most adverse conditions, in many cases without significant experience, and never with the resources he would like to have at his disposal.

Aside from those who have served in the position, nobody can truly understand the awesome responsibilities of a combat leader. Even in peacetime, leadership places enormous burdens on a soldier. Attempting to train a unit for combat—given the time constraints, resource scarcities, and personnel limitations—is a 24-hour-a-day and seven-day-a-week job.

Where does loyalty fit into this equation? In fact, it doesn't, because loyalty cannot be quantified. It can't be slipped in neatly between operations and maintenance. But loyalty is, without question,

the single most important *human* quality that makes a unit work.

Two things seem to influence loyalty more than others—competence and caring. Competence is something that can be learned. Since we have what many consider the best-educated officers and NCOs in the world today, let us assume that most of those who lead our Army today are competent. But what about caring? Can one truly learn to care about what is essentially a group of strangers, at least initially?

Caring about subordinates is, without question, essential in building that intangible bond of loyalty. Caring too little for his subordinates will have a devastating effect on a unit's command climate—that intangible feeling of well being that a soldier develops as a member of a high-quality military organization. At the tactical level, it is not only loyalty to the Constitution that makes a unit run but loyalty to one's comrades and leaders.

A leader who does not care about his

subordinates, or who cares too little, cannot build that intangible bridge that is so important. Instead, he must walk the tightrope between mission and men. The responsibility borne by a leader in this context is without equal in any other profession; the cost of a wrong decision must sometimes be measured in terms of lives and mauled bodies.

At the other end of the tightrope is mission accomplishment, which is no less important. In combat, a leader's decisions are generally judged correct by his superiors if, in the end, the mission is accomplished. The cost in terms of lives is subordinated to the greater good of the whole—meaning the larger organization's mission and ultimately that of the nation.

On the other hand, it is possible for a leader to care too much, and this is equally dangerous. A leader who cares too deeply for his soldiers runs the risk of becoming emotionally involved with the people he may, in turn, have to expose to their potential deaths. The emotional



trauma that leader experiences, brought about by feelings of ultimate responsibility, can be crushing and can make him ineffective as a leader.

Walking this tightrope successfully depends upon the individual leader's human as well as professional qualities. Aside from developing his own competence, his most important goal should be the establishment of the ties of loyalty upon which trust grows. It is almost axiomatic that a leader who is not trusted will not hold that position of responsibility for long or function effectively in it while he does.

Some of us may have known leaders who seemed to equate being loyal subordinates with being "yes men." Perception, of course, is not always reality, but it must be understood that what superiors and subordinates alike perceive is often reality for *them*. Therefore, just as he must establish a good relationship with his subordinates, he must also establish a relationship with his superiors that is loyal yet wholly professional.

A loyal subordinate can be defined as one who states his opinion candidly but who loyally executes his superiors' orders as though they were his own. Any soldier who strives to live up to the precepts of this definition knows the pitfalls—in some cases, his own subordinates will view him as a "yes man" or worse.

To keep such perceptions from becoming the reality for his subordinates, a leader must loyally support his subordi-

nates. It is his loyal support to them that encourages initiative, forgives honest errors, and in turn develops loyalty in them. Loyalty is never given, though; it is earned. A leader who demands the support of his subordinates but fails to support them is a fool. This may mean supporting them in some cases even if he believes they are wrong. Leaders should encourage their subordinates and avoid being negative at all costs.

Counseling is a key to developing loyal relationships. Unfortunately, though, counseling has come to have a negative connotation in the Army. But counseling sessions, formal and informal, that concentrate on the positive aspects of a subordinate leader's performance cultivate the tie that binds.

In the best interests of both the individual and the organization, those who, in the leader's view, will never make the grade have to be relieved of the responsibilities of leadership. Any officer or noncommissioned officer who has had to "fire" a subordinate leader knows how difficult it can be. Yet the officer or NCO's first loyalty within his organization must be to the unit as a whole and not to individuals. Again, lives may hang in the balance.

In summary, there are few more emotionally charged subjects in our service than loyalty. But the essential truths are these:

- Genuine loyalty cannot be bought or sold. It can only be given freely, and therein lies its greatest value.

- Loyalty is a two-way street. Leaders who want their subordinates' loyalty have to earn it.

- The only way to earn their loyalty is by first being loyal to them. An officer or NCO must stand up for his subordinates.

- The loyalty that a leader owes to his superiors is directly related to his loyalty to the nation and his oath.

Despite all of the issues that have been raised, though, and regardless of personal feelings, unless a directive is illegal or immoral, a superior's orders must be loyally obeyed. A leader can take issue with his boss and, if time allows, even go over his head. **But for a leader in combat, time will be a luxury.** Ultimately, the oath he takes must take precedence over his personal feelings or professional opinions. In the final analysis, loyalty to his nation outweighs all other considerations.

Finally, returning to the captain who told me about his test of loyalty with his battalion commander and his decision to follow orders that he did not agree with, it is difficult to see how he could have done otherwise.

Major Robert B. Adolph, Jr., recently volunteered for United Nations Military Observer duty in the Middle East. He was previously Deputy Chief, Special Operations Proponency Office, John F. Kennedy Special Warfare Center and School at Fort Bragg. His articles and book reviews have appeared in numerous publications.

Map Course Distances

MAJOR CHARLES F. COFFIN III

Setting up a good map-reading course is tough work. If you're lucky, you have one nearby that has been checked for accuracy and guaranteed correct. But you may not be that lucky, especially if you

are in an Army Reserve or National Guard unit. And even if there is a course nearby, you may not be able to use it when you want to—another unit may have priority, the scheduling may not

work with your unit's training plan, or the course just isn't suitable for the kind of map-reading training you want to conduct.

Whatever the reason, one day you may

be directed to set up "a good azimuth-and-pace course." The key word, of course, is "good."

In addition to checking the knowledge soldiers have gained in a classroom, a map-reading course must also build confidence—especially when you're training people who are not familiar with map and compass work. And nothing destroys confidence more quickly than an inaccurate map course. (Who among us has not spent an extra hour or more on a map course somewhere looking for a point that wasn't where we knew it had to be? How much worse is it, then, for a young soldier who hasn't done much map-reading, isn't quite sure what he is doing, and is trying to make sense of it all?)

Accuracy, then, is a must. But how do you get it?

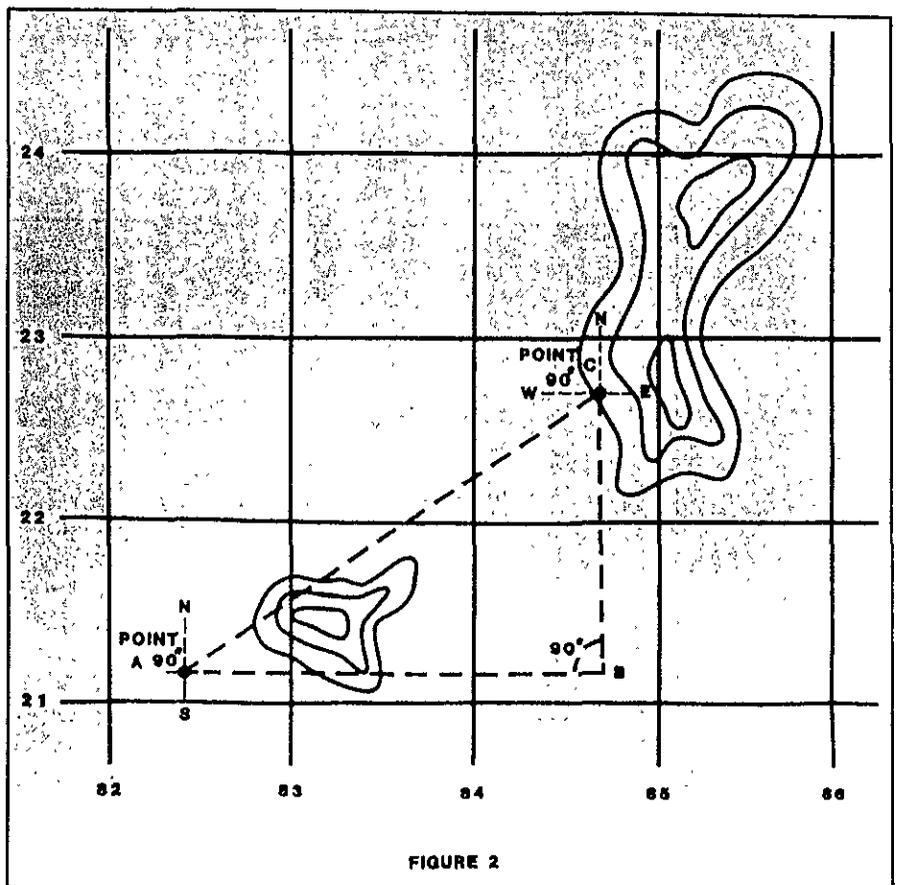
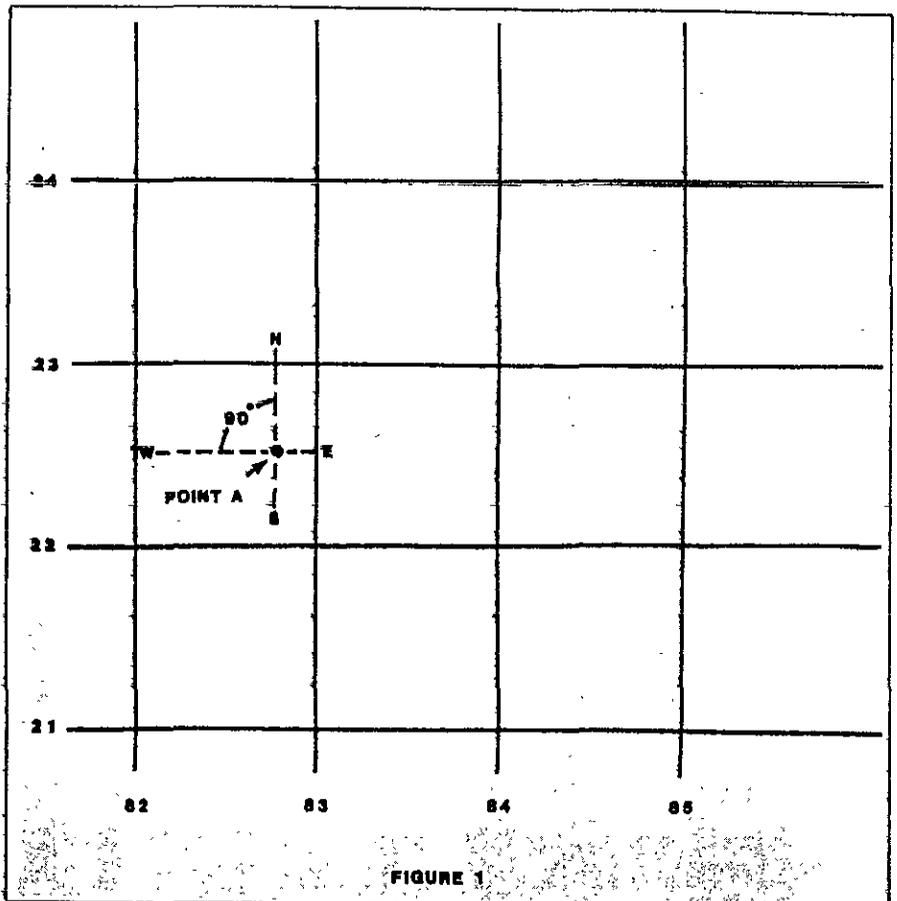
Since much of the teaching that I do—and probably much that you do—in both orienteering and ordinary map reading concentrates on the ability to move from place to place, I am very concerned with distance. How far is it, exactly, from here to there? The goal, then, is to verify the accuracy of such "dead reckoning" distances.

Let's assume you have a piece of ground you're reasonably satisfied with and you're going out to place your points. You must place them accurately, within eight digits. Use intersection, resection, terrain association, modified resection, or satellite photos, if you can get them. Do *not*, however, use your pace count to measure distances between points. That's what we're going to verify. But you *can* plot the points—to eight digits—on your map as you're setting this up and then plot the presumed distances on it.

First, though, let's do a quick review from a slightly different perspective.

Every point we plot on a map can be viewed as the corner of a right triangle. We read map coordinates "right and up." Any point is the intersection between a North/South (vertical) gridline and an East/West (horizontal) gridline. These lines always form the corner of a right triangle (Figure 1). (None of this is new; you probably had it in your first map-reading course and in every one since.)

If any point can be expressed as being part of a right triangle, then the distance



doesn't jibe, that things don't seem to be accurate. There are five possibilities.

- **Your pace count is wrong.** Double check it.

- **Your azimuth is wrong.** Double check it, both on the ground and on the map. And have someone else check your work.

- **The points weren't accurately placed.** You'll have to recheck everything.

- **Your map is wrong.** It may be, but you'll have to be very sure that it is before you discard it or alter it based on this possibility.

- **You have done your math incorrectly.** Check the figures again and make

sure you fed the calculator the right numbers.

Once you have checked these five possibilities, you should be able to eliminate any errors on your course.

In sum, setting up and checking a good map course requires some time and effort, but they are hours well spent, and they will pay high dividends.

If you are going to train your soldiers to the same high standards you hold for yourself, you must make every effort to see that they have the tools they need—precisely accurate courses and good instruction.

Then the errors they make will be their own. You can work with them, find what

they are doing wrong, and correct them. But the successes they achieve, the confidence they build, the skills they develop will be their own, unsullied by faulty tools. And they deserve no less. They're your soldiers.

Major Charles F. Coffin III was commissioned in Infantry in 1974 and recently transferred to Special Forces. He has served as an enlisted man and an officer in Ranger, Special Forces, airborne infantry, and other assignments, including one tour in Vietnam. He has served in the Active Army, the Army National Guard, and the Army Reserve, and has been in Active Guard Reserve status since 1981. He is presently assigned as an Assistant Professor of Military Science at Ball State University in Muncie, Indiana.

Hasty River Crossings

LIEUTENANT COLONEL STEPHEN E. RUNALS

Since 1982, the AirLand Battle concept has described the U.S. Army's doctrinal approach to generating and focusing combat power for operational and tactical planning and for field operations. Resting as it does on the four basic tenets of initiative, agility, depth, and synchronization, the concept offers the Army an opportunity to fight outnumbered and win. While all four of these tenets are essential to battlefield success, a quick look at just one aspect of Soviet tactical doctrine, river crossing operations, reveals that the U.S. Army is not alone in the importance it places on initiative.

Both the Soviet Union and the U.S. believe that the fluid nature of future warfare will require tactical forces that are organized, trained, and equipped to move rapidly over extended distances and strike at the enemy's vulnerabilities. However, Soviet studies have found that on a European battlefield, combat forces can expect to encounter water obstacles up to 100 meters wide every 35 to 60 kilometers, between 100 and 300 meters

wide every 100 to 150 kilometers, and greater than 300 meters wide every 250 to 300 kilometers. To be successful in maintaining the initiative and the tempo of operations that is required on such a battlefield, therefore, U.S. and Soviet forces must be able to breach these numerous water obstacles quickly. The assault or hasty river crossing is one solution both armies have identified to meet this requirement.

HIGH TEMPO

The Soviets view a tactical river crossing as either an assault crossing from the march or a deliberate crossing. In keeping with their view that success on the battlefield can be achieved only if they maintain a high tempo of operations, Soviet doctrine, in reality, places little emphasis on the deliberate crossing. Soviet tactical literature insists that even wide rivers defended by well-organized forces can be assaulted and crossed from the march.

Assault crossings are characterized by forces moving toward a river on a broad front in normal march formation while maintaining a high rate of advance. The doctrine therefore emphasizes prior planning and the use of specially organized forward detachments.

A decision to cross a water barrier from the march is made as early as possible to allow enough time for organizing and positioning forces and equipment for the anticipated crossing. The Soviets use their available intelligence information to identify only those possible crossing sites that best conform to their operational requirements. Naturally, potential crossing sites are selected in areas where the banks and approach routes require a minimum of engineer preparation. Once those possible sites have been identified, engineer reconnaissance patrols are sent out to identify the actual crossing locations. Forward detachments, operating two to three hours ahead of the main body, are then directed to advance to the selected crossing sites, bypassing enemy forces as

and direction between any two points must be along the hypotenuse of a right triangle (Figure 2).

There is a simple mathematical formula for determining the length (distance) of the hypotenuse of a right triangle: the square of the hypotenuse is equal to the sums of the squares of the other two sides. If there were a simple, easy way to determine the distance represented by those two sides, we might have something here—and there is.

Look at Figure 3. Since we read maps right and up, an eight-digit coordinate is measured from a "major" gridline. If it's four digits, we can measure the distance to the nearest thousand meters; if it's six, to the nearest hundred meters; and, if it's eight, to the nearest ten meters. Point A on Figure 3 is at 82412115 and Point B is at 84712115. B is on the same plane as A, due east, 90 degrees. What is the distance between the two?

We can find out by subtracting the grid coordinates. Since this is an east-west

measurement, we are interested only in the first four numbers of each coordinate—the "right" part of the "right and up." Subtracting 8241 from 8471, we get 230. Since eight-digit coordinates measure to the nearest 10 meters, add a zero (multiplying by 10) to get the exact distance, in this case 2,300 meters.

The same method works for north-south distances. Point B is still at 84712115. Point C is at 84712265. This time we're interested only in the last four digits—the north-south numbers—2115 and 2265, the "up" of "right and up." Subtract 2115 from 2265; the result is 150. Add a zero and our answer is 1,500 meters.

This will work for any distance, obviously. It doesn't matter which number is the larger for subtraction, but it must be done consistently for north-south or east-west. You can't take the first four digits of one coordinate and the second four of the other and get a useful answer.

We now have the distances for two

sides of a right triangle: From Point A to Point B and from Point B to Point C. But what is the distance from C to A?

We determined that the distance from A to B was 2,300 meters and the distance from B to C was 1,500 meters. The distance from C to A (or A to C) is the hypotenuse. Using a pocket calculator, multiply 2300 times itself (2300 x 2300 equals 5290000) and write it down. Now multiply 1500 times itself (1500 x 1500 equals 2250000). We have now squared the lengths of the two sides of the right triangle.

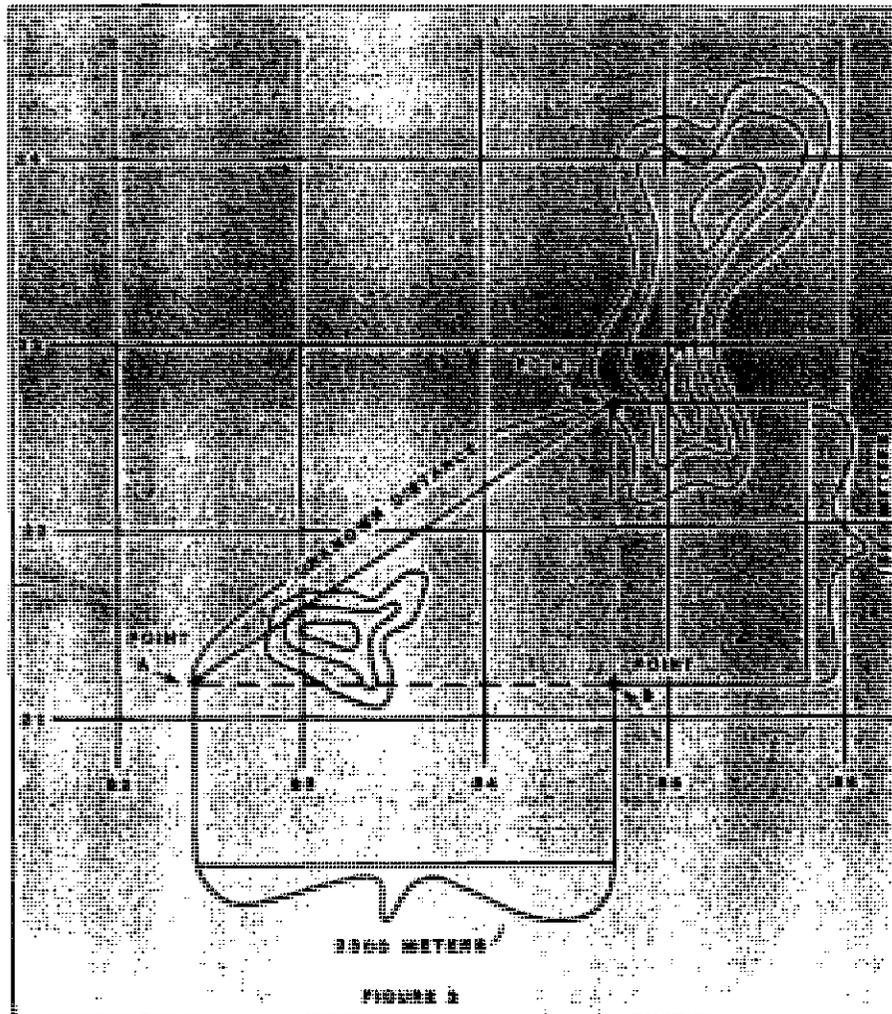
Add the 5290000 you got for the first side to the 2250000 still showing on your calculator, and you should get 7540000. Hit the square root on the keypad, and you should see 2745.906044. This is the hypotenuse; the distance from Point C to Point A is 2745.906044 meters. For practical work, round it to either 2745 or 2750 meters. (Don't let the size of the numbers scare you; it is not that difficult once you understand the principle and have done it once or twice for practice.)

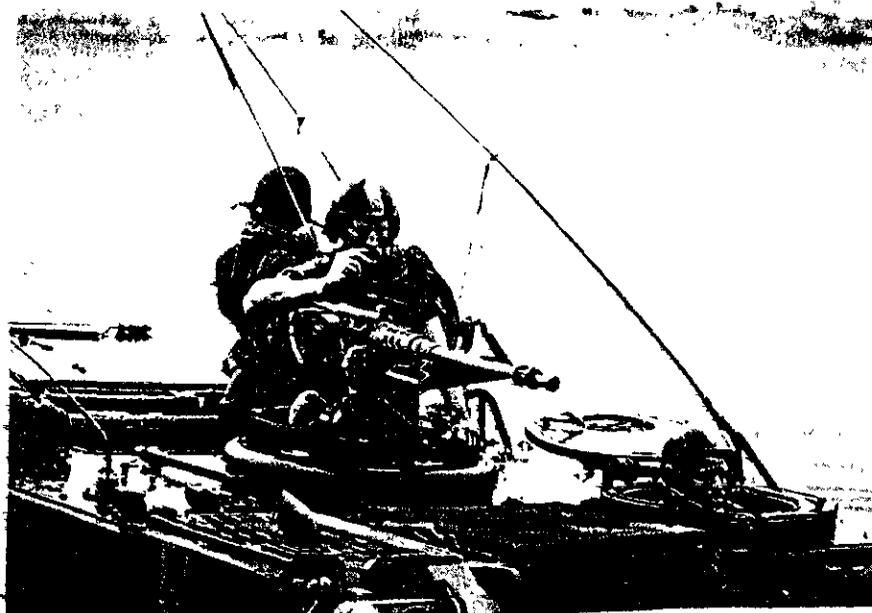
Obviously, this is not a method you can use for every situation. Although it's not difficult, it does take a few moments. You probably couldn't use it on the fly, except as an approximation, and it would be difficult to use in a track bouncing across rugged terrain, or while running an orienteering course.

Its advantage, however, is extreme accuracy. You can use this method when you need to know the precise distance between two points, such as when you're checking your answers on a map test, when you're doing some detailed planning, or when you're setting up your own map course, which is how we began this discussion.

Once you've established the distance between the points on the map course, place your points on the ground. Now walk the course—every point. When the troops argue about a point, you have to be able to tell them honestly, "I have personally walked every point, and I verify that they are all there and that they are where they are supposed to be." And you know they'll argue; you always did, didn't you? That's why, time-consuming as it is, you must walk it yourself.

Suppose, as part of your final check of the map course, you find that the course





U.S. troops during a river-crossing exercise in Korea.

required, to secure near-shore crossing sites and attempt an assault crossing to seize a bridgehead. (These detachments are normally made up of a motorized rifle battalion reinforced with a tank company, an artillery battalion, ferry and tracked amphibians, and such subunits as air defense, antitank, and chemical, ranging from squad to company size.)

To save time during each crossing and to reduce the size of potential targets as the main body moves into position to cross the river, Soviet doctrine emphasizes the need for strong air cover and air defense throughout the entire crossing operation. Additionally, crossings are conducted over a broad front. A typical regiment uses two or three crossing sites on a 10-kilometer front while a division conducts crossings with one, two, or three regiments in the first echelon in a zone 20 to 30 kilometers wide.

The Soviets further maintain speed by attaching division, army, and front-level engineering assets to the already extensive crossing capabilities of the assaulting forces. The expected time for the motorized forward detachment to conduct a crossing varies from 45 minutes to 90 minutes. The combat elements of a forward division are expected to be able to cross a 200-meter obstacle in five to six hours using only their organic engineer equipment. If they are given additional engineer assets, they can save even more time.

Speed, then, is the most important fac-

tor in a Soviet or Warsaw Pact officer's solution to operational problems or planning requirements. The Soviets see assault crossings as one key element in their ability to maintain a high tempo of operations, and make every effort to set the terms of battle to retain the initiative and maintain the tempo of operations.

U.S. doctrine also recognizes the need to be able to cross the numerous water obstacles of a European battlefield quickly. But the U.S. solution addresses the problem and its solutions with a different degree of detail and emphasis.

While the Soviets break river crossings down into two types of operations with the primary emphasis on assault crossings from the march, U.S. doctrine identifies two categories of crossings—offensive and retrograde. Offensive operations are further defined as either hasty or deliberate. This doctrine states that hasty crossings are preferred but places its primary written emphasis on the planning, organization, and execution of deliberate crossings and, to a lesser degree, retrograde crossings.

Hasty crossings are described as the crossing of water obstacles using organic, existing, or expedient means. Although "hasty," these operations are preplanned and conducted as a continuation of a tactical maneuver already in progress. Detailed planning is conducted to ensure that fire support and engineer assets will be in position when they are needed to support the crossing.

The forces should be organized to conduct crossings with little or no loss of momentum. To maintain momentum, they are expected to cross an obstacle on a broad front under decentralized control. Whenever possible, crossing sites are to be seized intact and in advance of the leading elements.

Although U.S. doctrine repeats many of the same principles found in the Soviet doctrine for assault crossings, a U.S. hasty river crossing occurs only if the conditions necessary for such a crossing exist when the combat forces arrive at a crossing site. Little emphasis is placed on creating opportunity.

Also absent from U.S. doctrine is a requirement to push engineer assets down to the assaulting forces. U.S. doctrine calls for the use of organic equipment in hasty crossings while the Soviets emphasize pushing assets from all levels down to the units making the assault. These assets include not only engineer equipment but air cover and air assault or airborne forces. Soviet doctrine further emphasizes the need for coordinated air support and air defense throughout the entire crossing. A discussion on the use of these same types of forces is noticeably absent from the limited doctrinal discussion of U.S. hasty river crossings.

Two final points are necessary in any comparison of the U.S. and Soviet doctrinal approaches to hasty river crossings. First, Soviet doctrine assumes that smoke will normally be included as part of

assault crossing support, while U.S. doctrine indicates that smoke may be incorporated as part of the operation but provides little further guidance or direction for its use.

The second point is more fundamental. Soviet doctrine is designed to take advantage of a high degree of amphibious mobility. All Soviet armored fighting vehicles are amphibious, as are selected artillery and air defense weapons. Soviet medium tanks are capable of crossing water obstacles using snorkels or, unmanned and sealed, of being pulled across underwater. The capability of amphibious operations has been engineered into a high percentage of Soviet equipment and is organic to all Soviet regiments, and this provides a flexibility that is only partially available to U.S. commanders.

If the U.S. Army is to achieve the

operational success that its AirLand Battle concept offers, the tenets of that doctrine must become more than just theoretical concepts discussed within our military school system and during officer professional development classes. They must become the underlying principles for tactical employment and must be fully incorporated into all of the doctrinal publications that support it.

A well-thought-out hasty river crossing doctrine will prove essential to both the attacker and the defender on battlefields of the future. Although both Soviet and U.S. doctrine recognize this requirement, only in Soviet tactical doctrine do we find the emphasis and direction necessary to create and maintain the initiative and momentum of attack that is anticipated for success in modern mobile warfare.

Having an effective river crossing doc-

trine does not in itself guarantee an army the ability to execute that doctrine on the battlefield. But it does provide a sound foundation upon which an army can base the design and procurement of its war-fighting equipment and the tactical training necessary to meet the requirements of that battlefield. The success of the Soviet trained and equipped Egyptian forces on the Suez in October 1973 provides adequate evidence that sound Soviet doctrine is matched with an equally effective ability to carry it out.

Lieutenant Colonel Stephen E. Runals commands the 2d Battalion, 28th Infantry at Fort Jackson. He was previously a brigade S-3 and division G-3 plans officer in the 101st Airborne Division and a battalion S-3 and a brigade operations officer in the 193d Infantry Brigade. He is a 1971 ROTC graduate of Norwich University.

Improved Mortar Vehicle

SERGEANT GILBERT F. WARNER

The fast, violent combat expected on today's battlefield requires that mortars be able to keep up with the units they are supporting. And mortar vehicles must be able to fire rapidly under all weather conditions, at any time of day, and still survive.

The present version of the M106 mortar vehicle (the M106A2) has several shortcomings in these areas: It is slow, both in moving cross country and in setting up for firing; its accuracy is severely affected by bad weather, bad visibility, and simple darkness; and it could stand some improvements in survivability. Although budget constraints may make an entirely new family of vehicles impossible, it may be possible to upgrade the M106A2 at a fairly low cost per unit.

At the present time, the vehicle's raw

speed (that is, acceleration from 0 to 30 miles per hour), its top end speed, and the like can be changed only if the power-to-weight ratio is improved or if the power pack is changed. This would be expensive. But there are far less expensive ways of upgrading the vehicle.

TIME

Presently, for example, it takes two minutes to lay the base gun and 30 seconds to lay each additional gun in the section. Breaking the guns down for travel requires another 30 seconds, including the recovery of the aiming poles. Thus, for a section to stop, set up, and break down, not counting any fire missions, takes about three-and-one-half minutes—the same time it takes the sec-

tion to travel a little over one kilometer at the present cross-country speed of 20 kilometers per hour.

If the vehicle could stop, shoot, and move out in 15 to 30 seconds, however, its cross country speed would be doubled, assuming it made one-kilometer bounds. A two-kilometer move of the section would take six-and-one-half minutes instead of the present 10, and that would be a fairly substantial increase in speed. The time lost in transit could be made up by the reduced set-up and break-down time.

As for accuracy, it can be no better than the accuracy of locating the target, correcting for weather, and determining the section's location. There is not much a mortar section can do about the first two items, except adjust, but it can improve upon the third.

A highly trained section leader who is skilled in map reading must make sure the location is correct to an eight-digit grid. Few things are as discouraging to a mortar gunner as watching a pair of platoon sergeants argue about where in a particular area they are. Too often, a mortar location is known to within only a few hundred meters.

Darkness presents a whole range of problems. To adjust the range on a 4.2-inch mortar round, for instance, the propellant charges must be cut properly, and this is difficult to do in the dark. An ammunition bearer who is trying to count, by touch, charge 3s may get charge 5s instead. Darkness also slows down the preparation of rounds. (Trying to keep the rounds dry in rain or snow further compounds the problem.)

Light discipline at night is also a real problem. Gun positions are often visible because of the flashlights the ammunition bearers use in trying to set fuses and charges. In addition, there are lights on

the aiming posts, the aiming circle, and the M-53 sight.

Other items that affect survivability are the lack of a fire suppression system, the location of the fuel tank, and the stowage of ammunition. A hit on the left rear of the vehicle can burst the tank and send burning fuel over the interior of the track. In addition, most of the 88 rounds of ammunition are in open horizontal racks, and a good shock can knock them out.

Because the amount of vertical stowage is limited, the 88-round basic load may contain no more than 25 white phosphorus rounds. Assuming two adjusting rounds and a three-round fire for effect, this allows the equivalent of about 17 fire missions. More realistically, 29 three-round immediate suppression missions can be carried out, that being the most common mission called for in armor and cavalry operations. Any increase in this number would help.

I believe the inside of the M106 could be improved upon to solve some of these

problems. The present layout of the vehicle is shown in Figure 1, and my proposed arrangement is shown in Figure 2.

The first change should be to remove the internal fuel tank and add external tanks. External fuel tanks, to be mounted on the rear fenders, are currently in the technical manual. The removal of the fuel from the inside of the vehicle would reduce the fire hazard and provide room for more ammunition and equipment.

Then, the present ammunition racks, the radios, and the batteries should be removed. (At this point, a spall liner could be installed.) A flexible kevlar curtain with a baffled pass port should be installed to divide the mortar area from the center of the vehicle. The result would be a light, tight area for the ammunition handler so he can see what he is doing. Bins should be provided for waste and extra charges.

Vertical ammunition racks with doors and a fire detection-suppression system should be installed where the fuel tank,

Figure 1. Present layout of mortar vehicle.

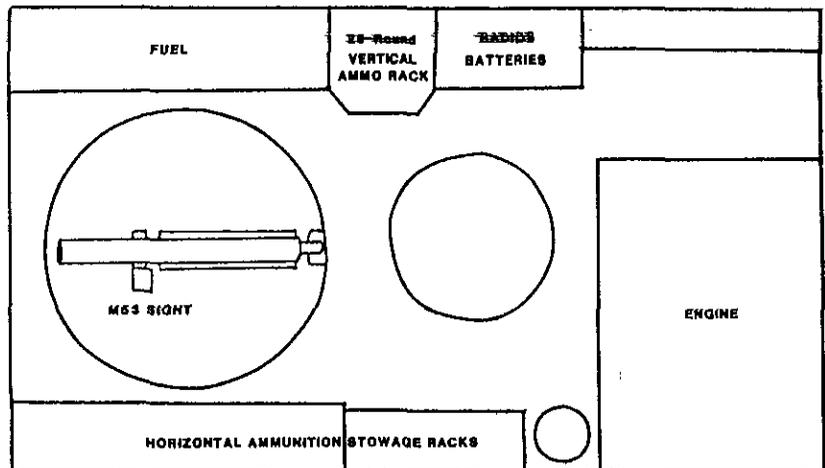
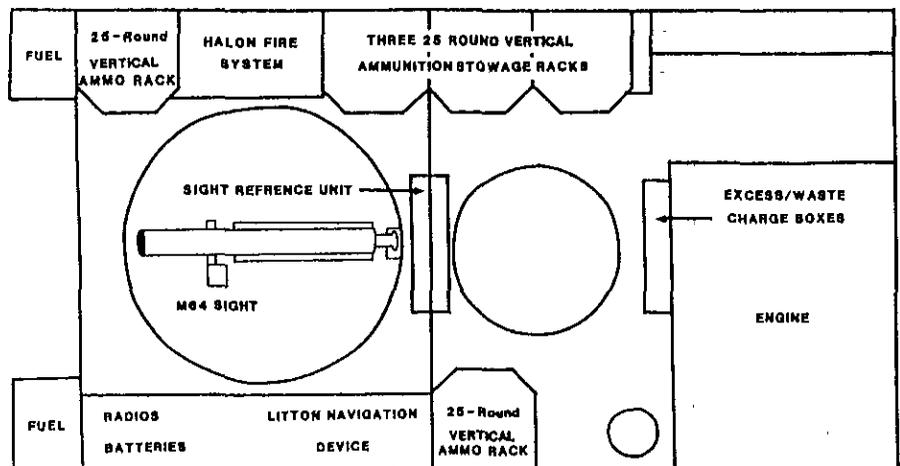


Figure 2. Proposed re-arrangement of vehicle.



the batteries, and the radios were. Racks should also be installed on the righthand side forward of the mortar compartment. Total stowage would then be 125 rounds, or enough for about 41 immediate suppression missions.

To further reduce the light coming from the vehicle, the M-64 self-illuminated sight should be substituted for the present M-53. Aiming posts should be replaced by a hooded reference bar fixed just ahead of the mortar compartment. This reference bar would save the time normally used emplacing and recovering aiming posts, and it would remove an external light source.

More active measures should also be used to ensure survivability. First, the current M-2 .50 caliber heavy machinegun does not have enough penetration against armored vehicles; its rate of fire is too low against infantry; and the gun mounting suffers from too much vibration when the gun is fired.

The present cupola should be replaced by the M60/Dragon/90mm recoilless rifle cupola from the old M113 scout vehicle. The M60 would be better to use against infantry, and more rounds could be carried. The Dragon or the 90mm would be better against light armor than the old M-2, and the 90mm with beehive would be great against an RPG gunner. In addition, pintle mounts for the M249

machinegun (squad automatic weapon) should be welded or bolted on.

The largest and most important of the proposed changes would be the least noticeable from outside the vehicle. The batteries and radios removed along with the ammunition rack should be put in the right rear corner, next to the gunner. Intercom boxes could then be added so that all of the crewmen—not just the track commander and the driver—could communicate.

Co-located with the electronics would be a new box containing a device (made by Litton) that is capable of tracking the location of the vehicle to an eight-digit grid with an accuracy of plus or minus .05 percent of the distance traveled. With this device, the heading of the mortar carrier could be accurately displayed to within one degree or 17.7 mils. It would provide displays for both the driver and the track commander.

An important feature of the tracker is that if a second location is entered into it, the direction and distance to that second point are also shown. Thus, the track is pivoted to the back azimuth, the gun is centered and leveled, the charge and drift are taken from the firing table, and the gun is up and a round on the way within seconds after the vehicle stops. At the maximum range of 6,600 meters, the total error would be less than 120

meters. Set-up and break-down time would be reduced, which would give the section a faster effective speed.

The vehicle could then operate by itself; it would not require a fire direction center for all missions. The section could then be dispersed over a wider area, with a lower signature and greater flexibility. And because the frequency of rearming would be reduced, logistics would be easier.

The total cost should be much less than that for a totally new mortar vehicle. In fact, many of the parts for the proposed changes are in the technical manual, and all of them are "off the shelf." The price of the Litton device was once quoted as under \$15,000. Adding up the costs of the rest from the M113 family, the total price of the modifications should be well under \$40,000 per vehicle. Much of the work could be done by a conversion team visiting the units.

I believe that this would be a cost effective way to upgrade the M106 mortar vehicle and thereby prolong its useful life.

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TOW GUNNERY WITH A MOTORIZED TWIST



COLONEL A. J. BERGERON
CAPTAIN LEE F. TAYLOR

The 9th Infantry Division (Motorized) developed its TOW Tables in 1986, shortly after it received its full complement of TOWs mounted on the M966 HMMWV (high-mobility multipurpose wheeled vehicle) and has extensively revised them ever since. (See "TOW Gunnery: The Motorized Approach," by Lieutenant Colonel Gregory C. Camp and Captain David H. Olwell, *INFANTRY*, September-October 1987, pages 22-25.)

The TOW gunnery program consists of nine separate tables that are built on the foundation of a quarterly TOW Gunners Skill Test and TOW Leaders Evaluation. These evaluations ensure that crew members and supervisors know how to maintain their TOW systems and place them into operation before conducting training, and both do an admirable job of sustaining the skills of the TOW crews.

TOW Tables I and II consist of practice and record tracking, using the DX-164 TOW training device, which is vastly superior to the M70A2 device. Table III consists of M966 HMMWV TOW crew drill. Tables IV and V are practice and record TOW squad courses, while Tables VI and VII consist of the practice and record section courses. Tables VIII and IX, the TOW platoon practice and record courses, complete the program.

Because the TOW II is the pivotal weapon system in today's motorized division, this training evaluation is critical. Con-

sequently, it is usually resourced and conducted by the brigades during their high-priority training sessions. During a recent training session, the division's 3d Brigade significantly expanded this training concept and integrated tough, battle-linked situational training exercises (STXs) into TOW Table V (TTV) to remedy some training weaknesses that had been identified during a rotation at the National Training Center (NTC).

One of these weaknesses was in identifying obstacles and any bypasses around them. The HMMWV TOWs' vulnerability to dismounted infantry at close range was another area that needed work. In addition, the OPFOR Hind helicopter-surrogates at the NTC had caused the brigade unacceptably high casualties in two battles, largely because of inadequate reactions by the TOW squads, and this also needed fixing.

The 3d Brigade planned to send each of its TOW squads through the expanded and toughened-up TOW Table V during a high priority training program. It also planned to conduct NTC standard after-action reviews (AARs) using the excellent training and experience gained from the NTC training. The TOW Table V was resourced by the brigade's master gunners. (These master gunners are exceptionally well trained and proficient 11-H noncommissioned officers who are graduates of the division's Master Gunner Course—an intensive two-week course on TOW training, maintenance, and tactical employment.)

To ensure good critiques and standardized evaluations, the brigade decided to use only a small number of TOW crew evaluators. Each master gunner evaluator was equipped with a hand-held radio and a stop watch, along with the other administrative material he would need to talk to TTV range control and the target drivers, and to record the elapsed times for the critical events. Each was also assigned a soldier with a video camera-recorder and a supply of tapes; this would help him to record the key events so that they could be used in the AARs conducted by the master gunners immediately after the battle run.

The targets for the TOW table consisted of 15 Soviet-look-alike vehicles provided by the Fort Lewis Training Support Center (TSC)—five three-dimensional fiberglass T-72 visual modification (VISMOD) kits, and ten three-dimensional fiberglass or sheet metal BMP or BRDM VISMOD kits. All of these targets were equipped with the MILES Interim Mobile Independent Target System (IMITS) detector indexed to the appropriate protection level for the vehicles they represented. The soldiers who manned these target vehicles were controlled on a separate frequency by the range officer-in-charge and a master gunner in the TTV range control bunker.

Before dawn on the day the crews were to execute the course, the squad and platoon leaders reported to the command post bunker to receive their operations order (OPORD). The order developed a realistic scenario in which an evaluated unit would conduct a relief in place of another unit with an enemy force expected in sector within two hours. The enemy would be a combat reconnaissance patrol and advance guard.

ISSUE OPORD

From an observation post co-located with the company command post, the range officer issued the OPORD to the platoon and squad leaders and oriented them to the terrain and the target reference points (TRPs). After receiving the OPORD, the squad leaders returned to prepare and inspect their crews and vehicles and to verify their MILES devices against a distant target. The platoon leaders led the squads down range to set the example.

During the standard TOW Table V, the master gunners evaluated the engagements from a total of six firing points (FPs). The crews encountered a different array of targets and ranges at each point. Range cards provided by the unit they had just relieved oriented the crews on their sectors.

After a squad occupied a firing point, range control directed that the targets begin their runs from hidden holding areas. Moving at realistic speeds and directions, the targets entered the squad's sector of responsibility. The master gunners evaluated the crews on detecting and reporting targets, establishing the targets' engageability and priority of engagement, conducting crew drills, and destroying targets. The members of each squad reported on the control net to their platoon leader. From him, they received correct tactical instructions to reposition to subsequent firing positions as the situation warranted.

DAY PHASE			
FP	TARGETS	ACTION	RANGE (meters)
1	1 BRDM	Moving obliquely forward	2000-1500
2	1 BRDM	Moving frontally	1200-800
3	1 BRDM	Moving obliquely	3000-2500
	1 T-72	Overwatching BRDM	2700
4	1 BRDM	Moving obliquely	3000-2500
	1 T-72	Overwatching BRDM	2500
5 (MOPP-4)	1 BMP	Stationary	1700
6	3 T-72s	Moving obliquely	3300-3000
	Attacking		

Targets are all 3-D MILES-equipped VISMODS. All ranges are from target appearance to end of presentation.

Table 1

When the squads moved to their subsequent positions, the master gunners evaluated them on their terrain driving and occupation skills. The complete spectrum of crew skills was evaluated with the introduction of a MOPP-4 engagement at FP 5 and a disabled vehicle and dismounted and engagement at FP 6. (The target array and ranges for each firing position used for the day phase are shown in Table 1.)

At the conclusion of the engagement from FP 6, a crew's company commander or platoon leader replaced the master gunner and then rode with and evaluated the crew during the STX phase of the course.

This phase of the evaluation was tactically structured by having a squad withdraw along a designated route from its final firing position. The squad's destination was another battle position overwatching an engagement area several kilometers to the south of the original FPs. As it withdrew, the squad navigated through lanes in friendly obstacles that had been emplaced to impede the enemy advance.

Intelligence on the platoon net indicated that enemy motorized elements might have infiltrated and established ambushes along the withdrawal route. As a squad moved down the designated route, it encountered a hasty minefield and was expected to detect the obstacle, report it, find a quick bypass around it, and continue its withdrawal. Shortly after bypassing this suspected enemy obstacle, the squad came under fire from a close-in ambush that blocked its withdrawal route.

The training objective for this STX was to identify the enemy, take evasive action, place immediate suppressive small arms fire on him, and continue the withdrawal along a designated alternate route.

The enemy at this STX site consisted of an actual Soviet BTR-60P and some RS-31 pop-up targets that simulated a dismounted squad emplacing another minefield and preparing for an ambush. All of the targets were equipped with MILES detectors, and the enemy personnel targets would drop if they were accurately suppressed by the TOW squad. A controller hidden nearby initiated the ambush when the squad came around a corner in the woodline about 200 meters away. To add battlefield realism, pneumatic artillery and machinegun simulators were used to simulate the engagement of the TOW



squad with an RPG rocket launcher and a machinegun.

A squad was considered successful if it quickly identified the ambush before it could be executed and bypassed the kill zone, as well as calling for indirect fire. For AAR input, the hidden target controller gave the range control bunker and the master gunner his observations from the enemy's perspective.

After encountering the close-in ambush, the TOW squad was forced to deviate to an alternate withdrawal route through more open terrain, where it came under attack from a Hind-D helicopter. Another hidden target controller operated another pneumatic machinegun and a series of ATTS (automatic tank target system) target lifters equipped with Hind-D silhouettes and Hoffman devices. The controller sequenced the target presentation to give it the appearance of an attacking Hind-D. (The application of acetate windshields and red stars added realism to the targets.)

A TOW squad succeeded on this STX if it detected the threat early, conducted evasive driving, and sought a more covered withdrawal route through a nearby woodline.

After evading the Hind-D attack, the squads were directed to the AAR site, where, after a short break, the master gunner started his portion of the AAR. Selected portions of the video tape were replayed to emphasize the key lessons.

Once the master gunner had completed his portion of the AAR, the company commander or platoon leader who had received input from the range control bunker and target operators began his AAR.

Careful scheduling had also allowed the company commanders to evaluate their platoon leaders on the course and to certify their skills. The squads from different platoons were sequenced down-range so that each newly certified platoon

leader could ride with each of his squads to identify the strengths and weaknesses in his battle drills and SOPs. This worked exceedingly well, because the unit leaders became thoroughly involved in fixing the weaknesses already identified.

After the AAR, the squads were released to conduct corrective training and prepare for the night phase (TOW Table V-B). Time and an adequately resourced training area were provided for this corrective training. As in the day phase, all of the TOW systems were verified at night against a distant target before a squad began its evaluation. (The target arrays and ranges for the night phase are shown in Table 2.)

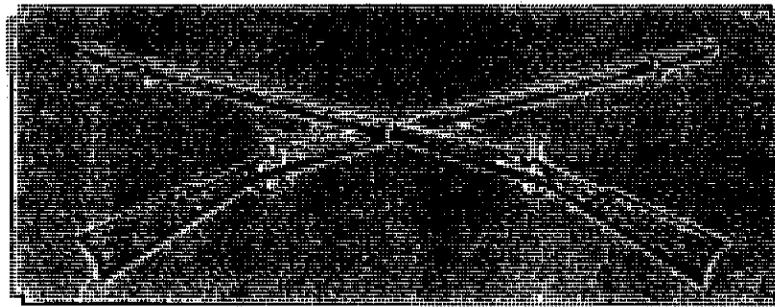
Fortunately, the recent introduction of the collimator adaptor assembly and new adjustable M73 MILES daysight tracker simulator now allow realistic gunnery at night. This is an absolutely essential skill in the motorized division, which conducts a significant percentage of its operations during darkness to exploit its superior technology, specifically the night vision goggles and the AN/TAS-4A TOW thermal night sight. With these new devices TOW MILES equipment can be used 24 hours a day.

After the TOW squads had executed both the day and the night phases of TOW Table V and conducted detailed after-action reviews, they showed supreme confidence in their skills and their equipment. This confidence was exhibited in the target kill percentages at the NTC, where the members of the brigade killed significantly more OPFOR vehicles with TOWs than the average rotational unit training there.

The gunnery program works, and works well. The addition of an STX phase provided a realistic battlefield experience and allowed the 3d Brigade to correct its identified shortfalls. The training is realistic, demanding, and fun. It trains the crews, interjects healthy competition, and provides the skills they need to defeat enemy armored forces and survive.

Colonel A. J. Bergeron is commander of the 3d Brigade, 9th Infantry Division. He has commanded several cavalry troops and an armor battalion. He has also served as S-3 of the 3d Brigade and as G-3 and chief of staff of the division. He is a 1965 graduate of Louisiana State University and holds a master's degree from Mississippi State University. He is also a National War College graduate.

Captain Lee F. Taylor is an assistant S-3 for the 3d Brigade. He previously commanded an M966 HMMWV TOW company in the division. He is a 1980 graduate of the United States Military Academy.





WHY MEN REALLY FIGHT

HARRY F. NOYES III

I saw it again the other night. The concluding comment in a videotape on fighting power—part of an excellent British television series called “Soldiers: A History of Men in Battle”—was that men fight for each other, for their buddies, not for patriotism and unit pride.

This is a cliché that has been foisted upon us by military sociologists ever since World War II. They created it to replace the old romantic cliché that men fight for God, country, and the admiration of their womenfolk.

It's time someone challenged this new cliché. Here goes.

Such clichés are not always wrong, of course, but they are often only half truths. That was the problem with the old romantic cliché, and that is also the problem with the new sociological one.

If the sociologists had said that the old cliché was incomplete and needed to be supplemented with new observations, there would be little to quibble over. Instead, they tried to sweep all of the non-sociological motivation completely off the boards and out of the thinking of professional soldiers. In so doing, they created an equally incomplete cliché.

That is not only academically incorrect: It is downright dangerous. It is dangerous because it means teaching entire generations of soldiers and leaders only one dimension of warrior inspiration. Thus, unless the better instincts of those soldiers and leaders prevail, they may neglect important components of their own combat motivation and that of their followers.

The truth is that motivation in any walk of life—and especially in battle—is a complex alloy of values. It is possible

to isolate the components of this amalgam for purposes of analysis. But it is wrong to assume that the components can be handled separately in practice, and even more wrong to assume that only one of them matters at all.

To push the alloy analogy a little further, treating the cohesion of the soldier's primary social group (the buddy group) as the only important element in combat motivation is like trying to explain a bronze statue by Rodin by discussing only the tin it contains.

Actually trying to inspire men to battle through sociological measures alone is like trying to improve the Rodin statue by melting it down to add more tin. This approach not only ignores the copper but, even worse, ignores the fact that the statue's true value lies in its artistic shape.

So it is with soldier motivation. Such misconceptions can be disastrous. For example, the U.S. Army's much-discussed internal troubles late in the Vietnam era stemmed more from neglecting the copper (the patriotic and idealistic side of motivation) than it did from weak tin (poor buddy-group cohesion).

LACK OF BELIEF

A lack of belief in the United States' war aims, not a disregard for fellow soldiers, is what undermined the U.S. Army's fighting power at certain junctures in Vietnam. (I will not join the debate over how bad this became. The existence of the phenomenon, not its intensity, is what concerns us here. And there is little doubt that, to some significant degree, the Army's morale and the willingness of many soldiers to be led and to fight were reduced by political disaffection.)

Why? I suspect it was because the military services never made more than a perfunctory effort to tell soldiers why they were fighting such a strange war so far from home. Isn't this the price we paid for teaching a generation of professional soldiers that such things didn't matter? Vietnam should have taught us that they do matter. Yet somehow we did not learn that lesson, perhaps because we were too busy trying to figure out the other lessons of this painful war.

Despite the 12-month tour limit and the continual rotations, by all accounts, U.S. Army buddy groups were generally strong in Vietnam. The problem was that the buddy group itself sometimes undermined fighting power instead of reinforcing it. The group's very cohesion could be used to frustrate the purposes of the Army chain of command and of the nation. Instead of steeling soldiers for combat, the buddy group sometimes became a mechanism for shirking combat. Some units may have conspired to cut patrols short, issue false position reports, and the like, to deceive the higher levels of command.

This was not unique to Vietnam, of course. Even at its worst, it may not have been as bad in Vietnam as it is sometimes portrayed as being. Overall, the Army did fight effectively in Vietnam. Yet there is strong evidence that such behavior and other expressions of frustration and poor morale that stemmed from cynicism about the higher purposes of the war hurt our war effort.

Wherever and whenever such things do happen, they represent a triumph of the buddy group over the Army and the nation as a whole—a perversion that damages our country's interests. And it all stems from neglecting the patriotic-idealistic element in the motivation of American soldiers.

One of the main challenges to military leadership, therefore, is to find ways of preventing this kind of psychological disconnection between the front-line buddy group and the larger purposes of the Army and the nation. If such a disconnection occurs, then the strength and cohesion of the buddy group become irrelevant (or even counterproductive) to victory. Furthermore, the buddy group concept itself offers no solution to the threat of such a disconnection and we must look elsewhere.

There are several strands to the harness that keeps the buddy group connected to the country's reasons for fighting. There are institutional measures such as inspections and military justice procedures. These are important if only because they remind everyone of the seriousness of the issue. And they assure the conscientious soldier that skulkers will not be allowed to shift their loads onto him. But every good leader knows that when one asks men to risk their lives under fire, the fear of official action is a poor substitute for devotion. Every effective Army uses other means.

One of these is the development of pride in the large force—usually the regiment or the division. Some outstanding leaders (such as General George S. Patton, Jr., for example) have managed to focus pride on an even larger force, the numbered army. And for a U.S. Marine, the entire Corps is his focus of pride.

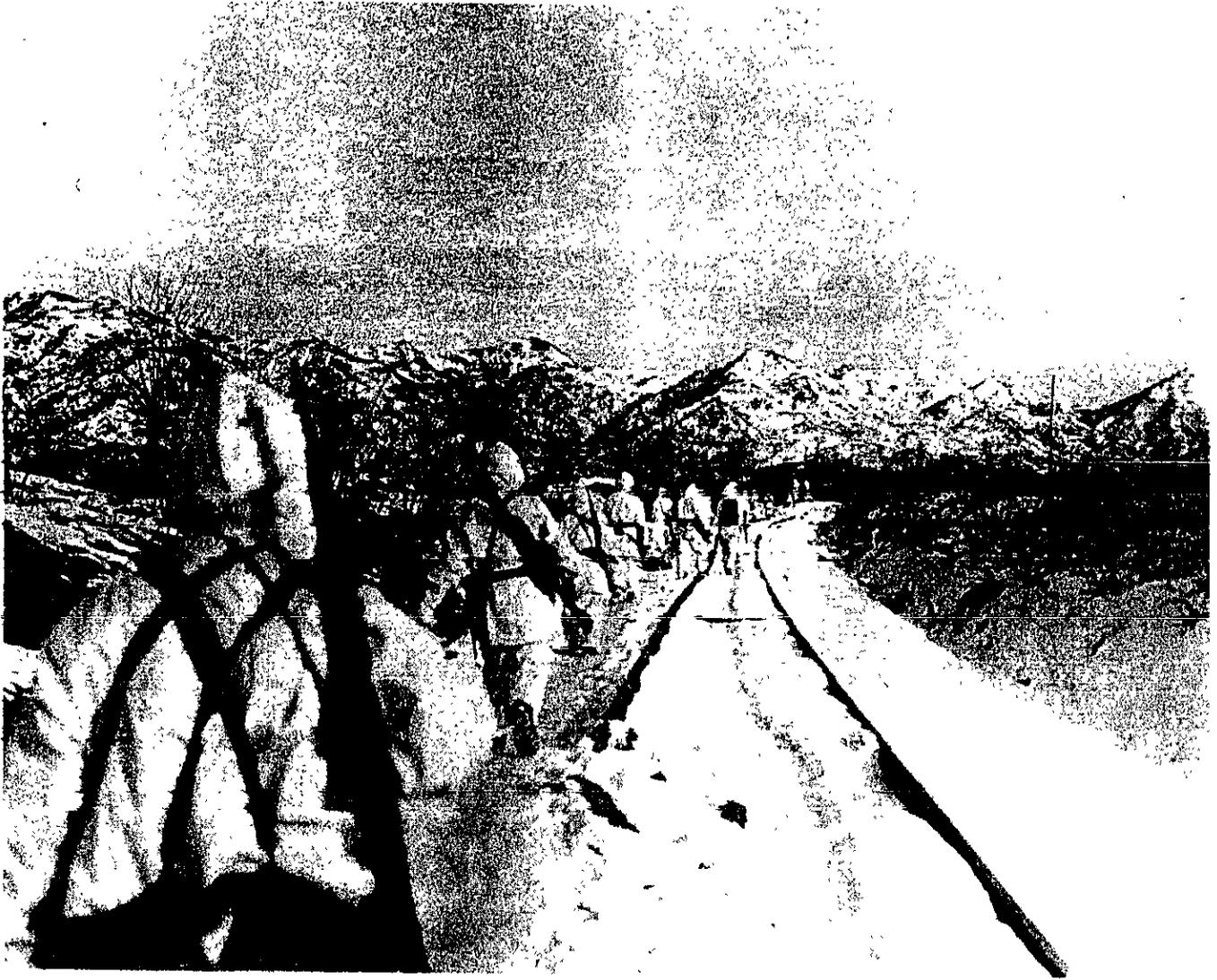
SHEER LEADERSHIP

Another tool is sheer leadership. A good front-line leader makes himself a sort of associate member of the buddy group. That is, without abandoning his proper leadership role, he nonetheless becomes someone whom the soldiers in the buddy group respect, like, and do not want to betray or disappoint.

He must not totally merge into the buddy group, for if this happens, he may then become a co-conspirator in the measures the soldiers may take to avoid combat. He must avoid being perceived by the troops as merely "one of them."

The difficult but essential role of the front-line leader is to overlap the two worlds of the buddy group and the leader and to act as a channel between them. Such leaders are the most important day-to-day link between the Army and the fighters. The Army must be careful to lead and motivate these first-line leaders properly, to prevent them from sinking entirely into the buddy group. This is the difficult but essential role of *their* first-line leaders—one that is sometimes neglected by commanders who take their subordinate leaders for granted.

There is something else, though, something deeper and therefore harder to see and easier to ignore or disparage, but ultimately the most important of all. And that is the soldier's patriotism and commitment to the spiritual values of the nation—freedom, democracy, justice, human equality, decency.



Korea, January 1952

If cynicism about our war aims can undermine our fighting power, then it is only logical to conclude that faith in them—the conviction that we are fighting for those traditional American values—can reinforce our combat power. A soldier is a member of the nation and shares its values, and that is the indispensable basic element in the alloy, the copper in the bronze, of his fighting power. The tin (the buddy group) may give him the hardness to face war's bitterest moments, but it is the copper (patriotism and idealism) that will give his efforts their direction.

And what evidence do I offer that this is true? To that question I offer a combination of history, testimonials, and simple logic.

There are thousands of examples from the history of war that leave no doubt about the role of patriotism and idealism:

- Why did American prisoners of war willingly bring mistreatment and death upon themselves in British prison hulks during the War for Independence by singing patriotic songs on the Fourth of July?

- Why did Russian soldiers resist so indomitably the inva-

sion of their homeland by Napoleon and later by Hitler?

- Why did Israeli troops fight with such incredible ferocity on the Golan Heights in 1973?

- How could Confederate soldiers hold out for so long against such great odds and still go out fighting?

It stretches credulity to assume that the Russians, the Israelis, and the American Southerners were just natural-born buddy-group builders. In fact, the explanation is found in words such as Mother Russia, Zion, and Dixie, which have nothing to do with buddy groups. I defy the military sociologists to find knowledgeable historians who fail to attribute these phenomenal military performances at least partly to a love of homeland and home people.

It is almost universally acknowledged among political and military scholars that national armies are tougher and more reliable than mercenary forces. This fact cannot be explained in terms of primary social groups, but it can be explained in terms of patriotism. Soldiers in national armies have a personal stake in the issue when their nations make war.

Are we to conclude that Niccolo Machiavelli was naive when

he called for a national Florentine militia instead of *condottieri*, or mercenary leaders? The *condottieri* concept of the buddy-group's solidarity extended across the line to include profitable cooperation with the enemy. *Naive* would be a strange word to apply to Machiavelli.

Not to be ignored are the testimonials of great combat leaders:

- George Washington stressed the importance of teaching the troops "the importance of the cause and what it is they are contending for."

- Stonewall Jackson said that "the patriot volunteer, fighting for his country and his rights, makes the most reliable soldier upon earth."

- And British Field Marshall William Slim said that fighting for a worthy cause is the most important morale factor.

Somehow, I think these men are at least as well qualified to speak on this subject as the sociologists.

More humble perhaps but significant to me is the testimony of my father-in-law, who fought for more than three years in one of the best Wehrmacht divisions in World War II in Russia and on the Western Front. His 116th Panzer Division is noted in U.S. war reports as an efficient and honorable foe.

As a noncommissioned officer, he had little chance to observe the inner workings of the officer-education process and the general staff system that professionals rate so highly. But he knew the fighting soldiers and the foxhole buddy group intimately, and he says German soldiers fought well because they were patriots.

No wonder, then, that World War II was so hard-fought. Patriot against patriot. Such men do not quit easily. It is a point we cannot afford to miss, but usually do.

So it seems that both the sociological and the patriotic-idealistic dimensions play roles in motivating soldiers. What exactly is their relationship?

It's really not so hard. Like the copper and the tin in bronze, the sociological and the patriotic-idealistic elements of motivation are thoroughly mixed into the soldiers' make-up. Each serves a slightly different function. But the two are thoroughly blended.

Consider this. A soldier may stick around during hot situations only because of his commitment to his comrades. The documented tendency of new replacements to flee their first fights immediately unless they have first had a chance to become integrated into the buddy group shows that commitment is indeed vital under actual fire. If buddy-group cohesion were the only thing that influenced the behavior of men under fire, though, the likely result would be simply to ensure that they all ran away *together*. So something else must be at work here.

However deeply buried, however little the soldiers themselves may sometimes be aware of it, other factors do matter. Leadership and unit pride are certainly among them. But would even that be enough if they were not convinced that their efforts were vitally important to the people back home? I believe it is that conviction that causes soldiers to consider desertion en masse to be just as shameful for the group as desertion alone would be for an individual.

But even unit pride is reinforced by pride in country or by idealism. Soldiers serving in foreign armies rarely show much pride in their units except in certain cases: They are immigrants in a regular army unit; their unit is a nationally based one such as the Swiss brigades of early modern times or today's Gurkhas; the soldiers are united by a fierce commitment to an ideological cause; or the adopting nation has very carefully and skillfully integrated each soldier into its units in such a way that an aura of second nationality and vicarious patriotism can be built up around the units. This last is a rare and difficult feat that depends on monopolizing the world's sup-

The Delta, Vietnam, 1968



ply of a particular breed of man: Only the French Foreign Legion (a semi-national group because its officers are French) seems to achieve it.

In each of these instances, non-national soldiers and units seem to be most effective when they actually have some kind of national cement to bind them together; that is, when they aren't really as non-national as they first seem to be.

However this may be, the argument for patriotic-idealistic motivation gets stronger when we move one step further away from the firefight. Before a man can fight, he must march to the battle. Before he can do that, he must successfully complete a complex training process. And even before that, he must willingly become a soldier.

Yes, willingly. Even under a conscription system, only the dullest of men can fail to see many ways of avoiding service. It's easy enough if a man is willing to face some degree of social opprobrium—he can admit to infamous habits, or deliberately fail various tests or training phases.

Yet most people don't take these ways out. Most do choose to rally to their country's flag. Some may do so with misgivings, but a surprising number show real commitment and even enthusiasm when the threat to their homeland is perceived as being clear-cut. (Indeed, the proportion of martial enthusiasm to the directness of the perceived threat to the homeland's vital interests and values is further historical evidence of the importance of patriotic-idealistic motivation.)

This enthusiasm cannot be attributed to the buddy group. Except for a small number of group enlistments, the buddy group doesn't even begin to form until after training starts. And the buddy group that counts the most, the small combat units, may not be formed until much later.

The farther back from the front one gets, the less important the buddy group is and the more important the patriotic-idealistic motivations become. Indeed the buddy group seems most powerful, felicitously enough, at precisely the moment when it is most needed—in the actual midst of combat.

Behind the front in World War II, the U.S. Army suffered from a large number of desertions and unauthorized absences. Apparently, soldiers don't feel so bad about abandoning their closest buddies when those buddies are not in any immediate

danger. This is an important point, because combat soldiers are not "up front" all the time. And many support troops with vital jobs rarely or never get involved in close combat.

Therefore, we had better start paying more attention to what makes men stick to the colors when life gets tough but not exactly bullet-riddled. It would be a mistake simply to rely upon a soldier's youthful upbringing to instill into him the proper sense of duty. Civilian society isn't teaching patriotism or responsibility the way it used to. A military leader who neglects to foster the patriotic and idealistic sides of his soldiers' training is, in my opinion, making a fatal error.

But how can we foster such qualities?

Although a detailed answer is beyond the scope of this article, in general a leader must use the same tools of communication, example, and encouragement that he uses to instill any other qualities in his troops. Most of our leaders are patriots. Therefore, they must not be shy about proclaiming and showing it in their daily work and behavior. They must be willing to talk about and demonstrate it.

Admittedly, this is a sensitive subject because it can become preachy or sentimental. As with all such issues, though, sincerity is the vaccine against preachiness and sentimentality. A truly sincere leader can discuss and demonstrate love of country convincingly and effectively.

Our soldiers of all grades share the same love of country that animates their leaders, although young soldiers may have learned to repress it for fear of appearing "uncool" to their school friends. The open patriotism and idealism of respected leaders will help them unleash their own passion for the United States and its ideals.

They'll surely be better soldiers for it. The soldier who, not only in battle but also in training and in garrison, is conscious of his patriotism, who sees his military work as a glorious calling in the service of mankind and mankind's greatest nation, cannot help approaching his duty with more devotion.

Harry F. Noyes III has written extensively for various civilian and military publications. Commissioned through ROTC in 1967, he served four years with the Air Force. He is now a major in the Army's Individual Ready Reserve.



Infantry

In Action



Saturation Operations

COLONEL PHILIP D. GRIMM

EDITOR'S NOTE: In the late spring or early summer of 1970 in Vietnam, Lieutenant Colonel Philip D. Grimm, the commander of the 4th Battalion, 3d Infantry, Americal Division, was scheduled to present his concept of small unit operations to the staff of the 101st Airborne Division (Airmobile). When he was unable to do so, he sat in a tent for an hour and recorded his thoughts on tape. The chief of staff of the 101st at the time endorsed the narrative as "a feasible small unit tactic that every battalion commander should consider."

A verbatim transcript of that tape was forwarded to INFANTRY recently by Major Russell A. Grimm, a son of the author. The following is INFANTRY's edited version of the transcript.

As Lieutenant Colonel Grimm stressed in his narrative, the

concept was nothing new. But it did offer a look at how one battalion operated in the situation and circumstances in which it found itself. And it can still be instructive in forming a command estimate, displaying decentralized initiative and synchronized execution, and especially in taking the fight to the enemy and beating him at his own game.

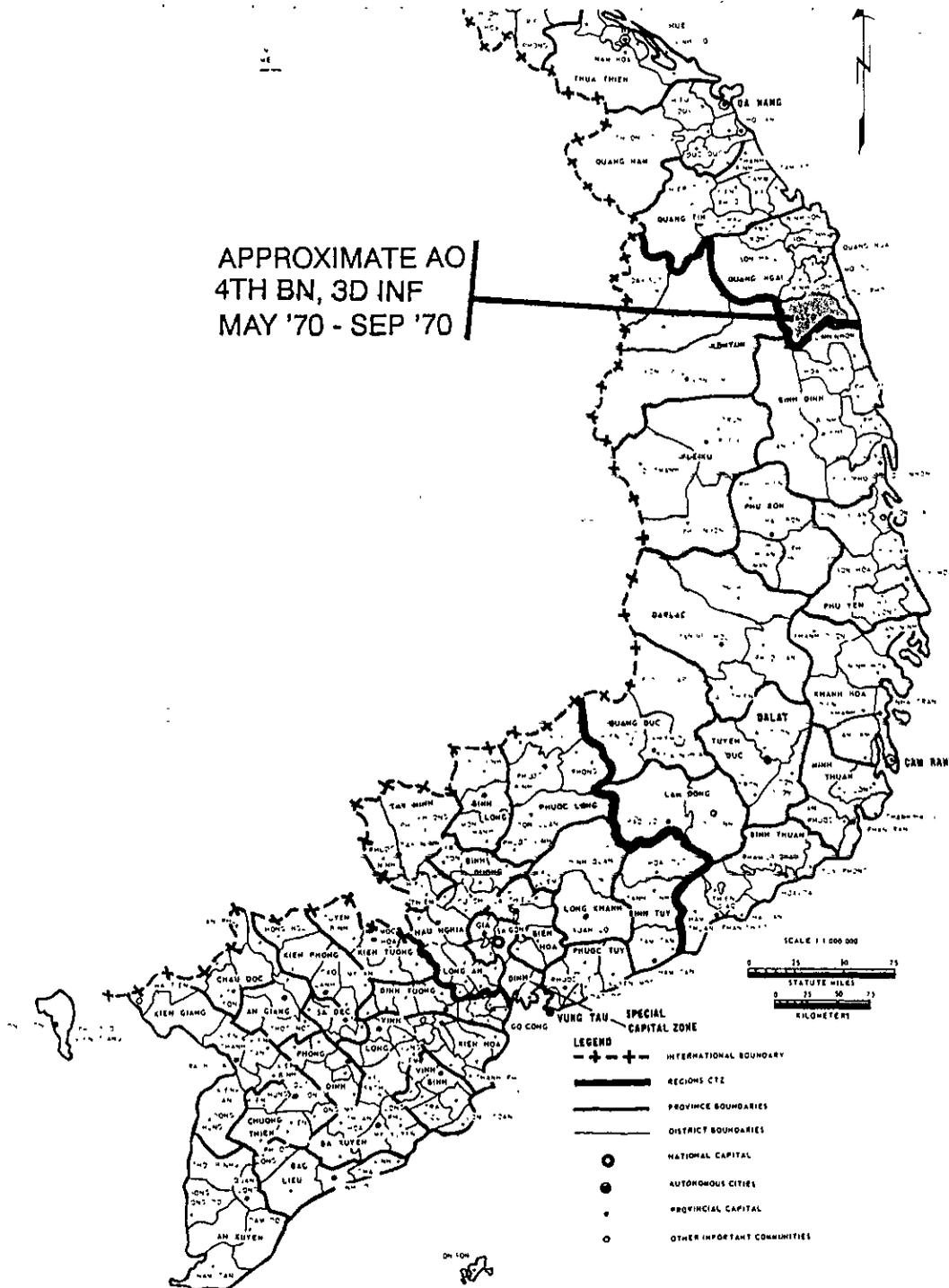
Colonel Grimm had been a battalion commander in Korea before serving two tours in Vietnam. Before assuming command of the 4th Battalion, 3d Infantry, he was a regimental advisor to the Army of the Republic of Vietnam, G-2 for the 1st Infantry Division, and then G-4 of the Americal. He retired in 1974 as a colonel.

My battalion, the 4th Battalion, 3d Infantry, is located about 30 kilometers south-southwest of the city of Quang Ngai and some 25 kilometers due west of the village of Duc Pho, or LZ Bronco, which is the home of my parent brigade. The mission of the battalion is twofold: first, to interdict NVA/VC movement between the heavily populated coastal plains and their base camp areas some 30 to 40 kilometers to the interior, and secondly, to be prepared to conduct combat operations anywhere within the brigade or division area of operations (AO). In addition, as part of the division's contingency planning, the battalion is to be prepared to be placed under the operational control of the 101st Airborne Division (Airmobile), should that become necessary.

In the strict sense of the word, we don't have any NVA or VC resident forces in my area. At the present time, we are carrying the 403d Sapper Battalion at a strength of about 300 effectives, and it is just to the southwest of my area of operations. In the past, it has moved to the east and staged in the southeast corner of my AO to conduct attacks against Duc Pho

in an area called the Rice Bowl, just to the south of Duc Pho between it and Sai Vinh. In the northern portion of my area of operations, from time to time, elements of the 21st NVA Regiment move into the Iron Mountain area to conduct attacks against the Nghia Hanh district in the lowlands between Nghia Hanh and Duc Pho. The average strength of these battalions of the 21st Regiment rarely exceeds 150 effectives each.

The battalion AO itself comprises an area approximately 15 kilometers wide and 19 kilometers north to south. On the eastern boundary, the elevation runs from 20 meters in the center of my AO to an elevation of between 500 and 700 meters, and on the western side again 500 to 600 to 700 meters. The battalion AO is bisected just north of the east-west center line by the Song Tra Chau river valley and Highway 515. The northwestern portion of the area is cut from north to south by the Song Ba River, which is a favorite route for the VC and NVA to use to move supplies from the coastal area into the interior. I should say also that in the past, Highway 515 has been suspected of being a heavily used route, but our operations in



there have not substantiated this suspicion.

The vegetation in the area of operations varies from overgrown, untilled rice paddies with the usual hedgerows on the eastern boundary through secondary jungle growth, which predominates throughout the AO, and two-thirds or triple canopy in some areas of the Iron Mountains. But generally it would be characterized as secondary growth.

It is mountainous going from an elevation of about 20 meters up to 700 meters. While that is not particularly high, the slopes are quite precipitous. The mountains are heavily cut with intermittent streams and these result, of course, in deep washouts and gullies that eventually find their way into numerous streams, generally running from west to east.

My battalion is running at an assigned strength of around 110 to 115 for my rifle companies, right at TOE for my headquarters company, and at TOE for my support company. This means, in practical terms, that I have a foxhole strength for operations of about 65 to 75 men in each of my rifle companies. I keep my reconnaissance platoon at full strength with volunteers from throughout the battalion.

Because I am saddled with a battalion rear area, naturally, in the base camp location, and also because I have a permanent firebase, I have moved my entire Echo or support company to the firebase—they're really the resident forces there. About half of my headquarters company is also resident on the firebase. This means, then, that these people are respon-

sible for maintaining the firebase including its defense, and I'll touch on how that affects the rifle companies later.

By mid-May this year it was quite evident that a change in operational concepts was necessary. Casualties inflicted on our forces were abnormally high, and the battalion had not in any way succeeded in its mission of interdicting the movement of enemy forces through the AO.

The lack of resident NVA/VC forces in the AO indicated that we could probably go ahead and use a saturation concept of operations in the AO without any undue risk. Nevertheless, I decided it would be profitable to get as much empirical data as we could so as to get a good, factual look at what we had in the AO.

ENEMY LOCATIONS

We started off by making a simple relief and drainage diagram in hopes that it would show us some rather logical routes of movement that had been missed during our operations in the past. In addition to that, we went back into the S-3 journals for a period of four to six months and resurrected all the grid coordinate locations of contacts, both by the enemy against us and by us against the enemy, as well as the various types of enemy installations—that is, way stations, base camps, overnight locations, caches, and so forth. In addition, where we could, we resurrected whatever trail information we had. Basically, there wasn't a great deal other than on the contacts and fortifications, and it remained for our saturation concept to fill in the picture.

We did get one thing from it. As we suspected, some areas appeared to lend themselves to ease of movement both east to west and west to east. But interestingly enough, there had been no enemy fortifications and contacts either in the rain valleys or in the stream valleys, nor had there been any on the ridges. Basically, they were off on the secondary fringes running from the main ridges and generally some distance down from the top.

Based on this information, then, we formulated a plan to have three companies operate in the field at one time, each one being assigned an area of operations and with the areas abutting. There was no set size; the AOs were based predominately on the operational period, which we decided would be 12 days, and they were fitted to the particular terrain where we were going to operate.

Except for the two main river valleys, I cannot put any sizeable force in by helicopter at one time. Our landing zones (LZs) and pick-up zones are generally two-ship and one-ship areas; in a few isolated areas, I can get as many as four helicopters in at one time.

Having broken down the AOs, the idea was to prepare an LZ just as if a company were going in as it had in the past with good artillery and air support, if we could get it. These LZs were always well away from the company's actual or the intended area of operations, and we're willing to give up three days of the 12-day operational period for the unit to move by stealth into its intended AO.

The AO itself is generally broken down into three sub-areas

with one of them the intended target area. The other two areas are given to a company as "be prepared" missions. The company moves by platoons to its AO; the company commander, usually his first sergeant (for the first three days), and his radio operators are given security by his mortar platoon, which usually consists of 15 but not more than 20 men in each company. They carry along with them one 81mm tube and a number of rounds. This is the control element and the only one in the company that does any digging in. It sites itself on high ground for easy communications, both back to our firebase (which is generally some great distance from the company) and to its own sub-elements.

On entering the company area of operations, the platoons are broken down into squad-size elements, and they then conduct multiple squad patrols and ambushes within that AO. The ambushes include mechanical ambushes, as opposed to those manned by personnel. Our concept is to put mechanical ambushes into locations where we would put a manned ambush if we had the force. Until we could get training back at the firebase, we initially started out with at least one mechanical ambush per squad. We are now up to three mechanical ambushes per squad throughout the battalion.

The initial ambush locations are spotted on a map by a company commander. His squads move individually to the map locations, adjust as necessary to the actual conditions on the ground, move on through, select their sites for the mechanical ambushes, install them, and move back just about dusk to their manned ambush sites. The following morning, they go out and pick up their mechanical ambushes, move toward the next map location, hole up during the day, leaving security out so that they can sleep. Late in the afternoon they move through the map location, establish the mechanical ambushes, and move back into the manned ambush sites. This is repeated.

AMBUSHES

If the mechanical ambushes go off, we generally try and check them as soon as possible. Now our only criterion for the mechanical ambush is that it be placed within earshot of the particular squad that's putting it out. Sometimes it's possible for the squads to go down and check them if they go off during the night; otherwise, they are removed the next morning. In either case, they're within 81mm mortar range, and the mortar is fired throughout the night if the mechanical ambush goes off and the squad cannot check it. Of course, this requires good fire control and exact knowledge of where the squads are.

We resupply on a three-day basis. We use that third day as a resupply day or as a day for the companies to move into another subsector of their AOs (again moving by squads) as well as for the squads to come back to the company CP locations to pick up their rations.

We do not feed hot meals any time during the 12 days, but on the third day we do, if possible, send in cold milk, cereal, oranges, and this type of thing. We started out with C-rations and have since gone on to long range reconnaissance patrol type rations. We've had a little bit of experience with that,



U.S. Army soldiers keep under cover while watching for the enemy.

and, of course, have to have water available to enable the men to use those rations and get by. But this is generally no problem in our AO.

When it's time for us to rotate the companies (and this is done sequentially so that we don't have more than one coming out at any one time), and we're ready to insert the company that's been on the firebase, again we move it by helicopter to an LZ generally removed from its AO. In the past, we've sometimes varied this, following up one company in an area of operations with another company in that same AO. What we do is put the incoming company into the LZ and move it by stealth so that the two companies are actually in the AO the same day or the night before (but in a different sector of it) when the company that's been in that AO is lifted out. This has worked like a charm in every case in that the VC observe the helicopters coming in and lifting people out; they believe we have gone and moved back into the AO. And each time this has happened, we have made kills from that force.

Prepping the LZs, besides making good sense, surprises the enemy and helps to dispel the idea that he's so smart. We do put in a big prep, and because the battalion has operated for so long in company strength, he thinks we will do the same thing. He hears and sees the prep, and his first action then

is to send out his trailwatchers or his scouts to pinpoint the location of the company's night defensive position (NDP). Each time we have used this concept, his scouts have come out and invariably bumped into one squad, got knocked off by it, or backed off and bumped into another squad. In one case, in fact, the first company we put in, the enemy force bounced off four squads and was finally eliminated with seven people killed including an officer from the 403d Sapper Battalion. What it reminds me of is the drop at Normandy where the dispersion, although it wasn't planned, created a false impression of the size force we had put in. This apparently has happened within the NVA/VC; at least they keep doing the same thing.

By the same token, we find that the NVA/VC apparently are creatures of habit. This may stem from the fact that they do have routes of movement through our AO, and those routes are broken down into segments with guides and drop-off points and so forth. But I can recall one case last month where between 0700 and 1100, we killed 11 NVA in groups of two (and one of three) using the same trail, coming down it lightly as if nothing had happened there in the past.

When we get a second type of mission—that is, to operate elsewhere within the brigade area of operations—some prob-

lems on recovery of the force have been created. It has also been more time-consuming than it would have been if a unit had been operating as a company, but we can do it. Our reaction time is fairly good, and the limiting factor is usually the number of available helicopters. What it does do, though, is knock out our sequential schedule, which means then that we have had to double up on the firebase for a four-day period with the companies in order to get them lined out.

As I mentioned earlier, about half of my headquarters company and all of my support company are on the firebase. They provide security for it and for the artillery battery located there. These I consider permanent hill people, and they are permanently responsible for the defense of the firebase. As a practical matter, of course, they can't do that for 365 days; they are broken down so that they work a 24-hour day. That is, the soldiers work eight hours in their primary jobs (for instance, in the TOC or with communications or in the mess hall), then have eight hours for sleep and eight hours to perform guard duty.

SYSTEM

When we rotate a company in there, the soldiers are met on our helipad, which can take two helicopters at a time. We have a standard system of taking up all the hand grenades and all the old ammunition, examining and replacing what is necessary. And we have a system for issuing the ammunition, the hand grenades, the trip flares, and claymores the soldiers will need for each fighting position.

Basically, we take their ammunition and move the men in regardless of the time of day and feed them a hot meal. The only requirement placed upon them on the day they come in is to get rid of their ammunition, move down to a central weapon cleaning area where they can completely strip their weapons and get them cleaned as they can't do in an individual haul, go through their platoon leader's weapons inspection, and then turn in their clothes, get a good hot shower and a good night's sleep. (We have built primitive shower stalls but with heated water; they are taken care of by the permanent hill people.) For any one particular rifleman during the three days he is on the firebase, at the most he will have guard once, that is one night, and very often a man will get it only every other time he comes to the hill.

The second day that they're on the hill, and a very critical part of this concept of operations, is to have an S.L.A. Marshall-type critique, particularly when we have had contacts. We talk to the squad that's been involved, ask whether the men put out the mechanical ambush and whether a mechanical ambush or small arms fire accounted for the kills that were made. We digress as needed with each man to work out the story on exactly what happened, so that each gets a feel for what the situation was.

In addition, I put the company commander with my S-2, and he goes through a detailed debriefing, as do his platoon and squad leaders, in regard to the trails, installations, anything that they found in the AO. This is then put on a particular overlay for whatever type of information it is. As this

information comes in, we know better and better, or with more surety, where we should operate.

As a result of this, we have come up with the actual routes of movement the enemy uses. In just talking about my area of operations, it turns out that our southern boundary, which is on an east-west series of ridges, is a main artery of movement of supplies and troops both east and west through the AO. Branching off of that in the south are three other main trails that move to the northeast and then several other lesser ones. The place that's obviously suspected, the 515 valley, probably is used by commo-haizon people, but forces do not move through it in any great strength.

Based on these data, we have concentrated our operations on those trails, and the results have been most gratifying. We have not had one U.S. soldier killed since mid-May. We have killed 69 NVA/VC, we have captured seven, and we have three civilian detainees. In addition, we have not had one booby trap tripped (this is obvious because we haven't had any casualties). This is most gratifying because a great number of our casualties in the past have come from command-detonated and other types of mines. The men before were loath to go out and operate, probably because they had been out so long and because when they did get whacked by the enemy, they got whacked bad. They were sullen, unresponsive and, as a case in point, two companies had refused to move. But now they're reasonably aggressive, they're confident in the system, and that confidence has grown each day.

It requires the fundamentals and really puts responsibility on the squad leaders. And the squad leaders in my battalion are no different from those in any others. If you're lucky, they're instant NCO graduates; if you're not, it's just the senior man that happens to be there. It removes the company commander from direct control—there's no doubt about that—and, as a matter of fact, the platoon leader is also limited in the AO as to what control he can exert over the men. Where the commander and the platoon leader really come into play is in the training stage on the hill, checking the ammunition, checking the weapons, rezeroing the weapons (which we do each time), communications procedures, scouting and patrolling, immediate action drill for jumping a sniper on a trail, how to react if they bounce into a base camp, and this type of thing.

FUNDAMENTALS

Obviously, this system depends entirely on fundamentals, and I may have overdone it a little bit on the lack of control by the company commanders and platoon leaders. But in fact, they can't really exert a great deal of influence. The company commander, through his FO channels, can get artillery fire; he also has the 81mm in there, and he can keep me advised of the situation. It depends on good communications procedures, on radio operators who know how to connect their thoughts with the jobs. Each of our company CPs takes a long wire antenna with it—the reel type. They also have secure means of communication with them.

But I find that it's also partly education for the junior lead

ers back on the firebase, making them inspect their men for the proper equipment to see that they have first aid pouches and canteens, that they take their pills, and that they go through the techniques of setting up a mechanical ambush (which can be real dangerous). Rezeroing is vitally important; cleanliness of weapons, quick fire techniques, and all the basic things are also important and they have to be stressed, and stressed, and stressed again.

At least in the battalion, I have pretty well gone by the book, because it's common to think "Here in combat, we do it differently from the way we have been taught." These are the important things and just the usual jerking the troops back into the newly disciplined requirements of the Army.

Another thing that is vital, and I can't over-emphasize it, is that we give the men all the rest we can, take care of them with showers and good hot chow when they come back out of the field, and take care of their weapons. But more important than that is having permanent, hill-type people pull most of the guard duty so that these men, when they actually do come back, do nothing but go over the fundamentals and train and get plenty of rest.

I kind of slighted our critiques earlier when I said that the soldiers could get a feel for what happened. Well, we carry it beyond that, of course, because again it comes to fundamentals. I think we're no different from other units; our percentage of kills by small arms fire is not good enough; our percentage of kills by contacts other than mechanical ambushes is not good enough. So we resurrect these things during the critiques, and by bringing them out in that style, each man knows what he did, and the things that were done wrong become patently obvious. Then you say to a man, here's what could have been done, or here might have been something to think about.

Now I know this sounds like we have all the answers—we don't. This method just happens to fit the particular area of operations and the type of mission we have. It all goes back to the fundamentals, and they can't be stressed enough over here.

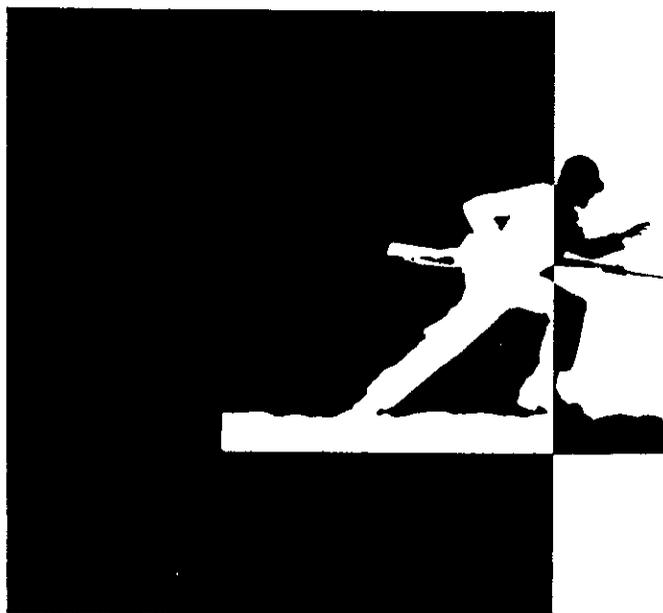
Also during the training periods, we go back to another fun-

damental, and that is troop leading procedures. This is primarily for the company commanders and the platoon leaders, but it's also for the squad leaders. And by that I mean that all my OPORDs are written for this particular concept; we give them all the intelligence and the overlays that we've gotten from the empirical data. I personally brief them; we go over what the area of operations is going to be; we go over all the data that we've had if we've operated in an area in the past. Then I make helicopter time available to them so they can fly adjacent to the area, take their platoon leaders out, check where they're going to put in their CPs, their planned movements, and this type of thing. When enough helicopter time is available, we even do this with the squad leaders.

We try to get this done two days before they are given the AO. This also gives them the time that they need to brief, and rebrief, and brief again through the squad leaders down to the men. I think, again, that it goes back to the fundamental that says to get the word on the essential things down to the men so they know where they're going, what they'll probably face, and characteristics of the area of operations, how they're going to operate, when their resupply will be, when they'll probably be pulled out, and, in general, place them just as we would paratroopers, for instance.

Basically, I don't have enough snipers yet; I have only eight, but I use them with the reconnaissance platoon, and they're broken down into teams of two snipers and either two or three reconnaissance men. When I send the reconnaissance men out on a mission (and it is generally in the opposite portion of the AO from where I have my three companies operating under this concept), they'll move out and drop the snipers for periods of three to six days. Then the snipers will either come back by themselves or the reconnaissance team will pick them up and bring them back.

There is certainly nothing new about this system. Other commanders, I am sure, have used the same concept and called it saturation patrolling. Still others have done the same thing and called it something else. All it is, is fundamentals, and it happens to fit my area of operations.



PAST TIMES



EDITOR'S NOTE: The following is another in our recurring series of articles reprinted from previous issues of INFANTRY and its predecessors, the INFANTRY SCHOOL QUARTERLY and the MAILING LIST.

Slightly edited for use here, this article originally appeared

in INFANTRY, March-April 1969, pages 24-26. At the time he wrote the article, the author had just completed a tour of duty as a battalion commander in Vietnam. He retired from the Army in 1971 with the rank of colonel. He is the author of the recently published book About Face.

Dig Deep

LIEUTENANT COLONEL DAVID H. HACKWORTH

During an operation in the central highlands, a rifle platoon discovered a large enemy basecamp. The platoon leader, an old hand in the jungle, quickly established a perimeter and had the platoon scratch out hasty fighting positions. Simultaneously, two small patrols were dispatched. Mission: "Determine if the camp is occupied and by what size force." The patrols were told to avoid a fight.

Before the patrols got near the basecamp complex, they drew rifle fire and hotfooted it back to the platoon. In hot pursuit was an enemy force estimated at platoon strength. This force stumbled into the coiled platoon and bounced off violently with a bloody nose.

Soon the attack against the dug-in platoon was going full steam. Within a half hour of the initial abortive probe, the platoon was struck by a two-company size force. But the platoon leader had done his homework. In his initial estimate, he concluded that he could be up against at least a battalion. So when he decided to form a perimeter, he also laid on a first-class fire support plan.

As soon as the patrols had closed, the fire plan became a reality. The platoon leader placed a virtual wall of artillery steel around his perimeter. This fire was put in so close that secondary shrapnel cut throughout the perimeter. Tactical air was placed out beyond the artillery's protective ring. The lieutenant had the airborne FAC (forward air controller) put the fighter aircrafts' destructive fires within the enemy basecamp, on likely routes of movement, and on possible assembly areas. In short, the battlefield was made as hot as possible.

The platoon withstood strong enemy attacks for the next hour. The protective fires continued to hammer the enemy, disrupting his ability to penetrate the defending platoon's posi-

tion. As small arms ammunition was becoming critically short, five friendly platoons who were checkerboarding within reinforcing distance had moved close enough to influence the action.

The enemy, upon discovering U.S. forces to their rear, concluded it was time to "give up the fight." Certainly, the deadly supporting fires also hastened this decision. The enemy broke off and disappeared into the bush, leaving a large number of their fellow soldiers lying on the battlefield.

This story unfolds like a classical infantry school defensive problem. Unfortunately, there are more examples in the record of where everything went wrong, rather than right. If the platoon leader follows the basic principles of defense, he will not get hurt. But for those who like to do things the easy way, the Vietnam jungle holds many tragic surprises.

A rifle platoon does not have the staying power to fight long as an independent force. Experience underscores the fact that a full-strength platoon can survive for not more than two hours against a strong, determined enemy force. And this is a platoon, as in our example, which has done everything by the book. After two hours, casualties, shortage of ammunition, and breakdown in command and control splinter a unit. It is no longer an organized fighting force and is subject to destruction in detail.

A rifle company should assemble its platoons and start preparing a solid company defensive perimeter not later than two hours before darkness. Ambush patrols should be planned early, and elements assigned ambush missions dropped off as *stay-behinds* during the platoon's movement to the proposed company defensive position. The ambushes should be sited on logical avenues of approach into the company defensive position.

Decent defensive terrain is hard to find in the bush. Do not worry about securing critical terrain. Worry only about making your defensive position fit you. Three-man holes should be the rule and the perimeter should be drawn tight. Each fighting position must be within sight of its adjacent neighbors during periods of limited visibility.

Listening posts should be set out in front of the platoon while the perimeter is being dug. Holes should at least come to the soldier's waist, and preferably to his chest. A grenade sump must be cut. Firing stakes made from jungle branches should mark the sector of fire. Soldiers should sleep below ground,



directly behind their fighting holes.

Weapons should be cleaned and oiled before dark. Magazines and hand grenades should be arranged where they are ready for quick use. Soldiers should practice locating them in the dark. Also, they should practice changing M16 magazines and reloading the M60 machinegun during hours of darkness.

Soldiers should be made to rehearse moving from their sleeping positions to their fighting holes. They should not take off their clothes or boots at night during an operation.

Putting a poncho over a hole to keep out the rain tells the enemy exactly where the position is. Forbid this slipshod practice. The fighting position must be carefully camouflaged. Soldiers should be taught to look at their position as if they were the enemy and planning to attack.

Only the squad leaders should set and recover booby traps, but the men must know their location. Each soldier should set out at least one trip flare or warning device. The platoon must establish a strict SOP on the employment of claymores.

It is essential for each man to know the location of his supplemental position. Platoons should rehearse, a squad at a time, falling back to this position.

As a matter of SOP, each squad should be assigned a nightly artillery concentration, preferably registered. If the tactical situation does not permit this, the squad leader must point out to his men where it is on the ground, and its number. The concentration number should remain the same night after night. If a platoon is hit and a soldier sees a good artillery target, he yells to his squad leader, "25 enemy from concentration A210, left 50, drop 50." The squad leader passes this to his platoon leader who provides an azimuth and calls in the fire. It's simple, and it works like a charm.

Do not stay in one position longer than one night. Keep moving, and you normally will keep the enemy off balance. He is too thorough to attack without knowing all the scoop about you. Remember, he only fights when he knows he can win!

Stress light, noise, and fire discipline; assign top priority to the development of your fire plan, and always fire it in before dark. Conduct stand-to at dusk, dawn, and, occasionally, when keyed to intelligence, during the night. During the dawn stand-to, stay at 100 percent alert until patrols have swept your complete perimeter. The enemy often stages right on top of a unit, with the purpose of attacking after stand-to when the unit is in that vulnerable twilight zone of preparing to move. Maximum security is achieved if the sweeping patrol takes up outguard positions around the perimeter while it is breaking camp.

During daylight hours, patrol out from your perimeter with strong combat patrols. Insure that each patrol is planned, prepared, and executed with precision. Each patrol should register supporting fires and have reliable communications. Inspect each patrol member before departure for weapons maintenance, quality of preparation, knowledge of mission, and unit patrol SOPs. Take time out when the patrol returns to debrief the members as a group and thank them for a "job well done." Then, let them rack out.

Your command post should be well dug in. A six-foot by

two-and-one-half foot hole, chest deep, will suffice; a poncho can be stretched tight over the top to allow for the use of a filtered flashlight for map study and message copying. The command post must be a defensive entity. This means that if a portion of your perimeter is overrun, the CP will remain a fortified island that can care for itself. Your CP group must be able to fight in any direction. Radios are operated from the bottom of the hole for maximum protection. The radio is your lifeline. Take care of it.

The perimeter must be checked to insure that a minimum of one man per fighting position is awake and alert. In the jungle, I recommend *against* a leader physically walking the line during darkness. This procedure is too noisy, and jumpy soldiers have killed their fair share of squad and platoon leaders. A system I suggest is that each fighting position be connected with a piece of communication wire. The trooper who is on guard holds the wire in one hand. The wire is tugged every 20 minutes. If a fighting position does not respond to a tug, a leader is notified and he pays the position a visit. Soldiers who sleep on guard must be treated harshly.

The best defense against attack is alert soldiers, trip grenades, trip flares, anti-intrusion devices, and sharp OPs. If your OPs are on the ball and have a starlight scope, they will see and smell the enemy. Instruct your OPs when they see enemy soldiers to spray a few magazines, toss a couple of grenades, and make it back to the line yelling as loud as they can that the platoon's got visitors.

The platoon immediately should go to 100 percent alert and simultaneously hose down all sectors of fire. The artillery defensive fires should immediately be brought in, and a flare ship should turn night into day.

The enemy prefers to attack when there is no moon or during heavy rain. Increase your number of OPs and percentage of people who are on guard during these periods.

So far, we have just discussed the hasty overnight defen-

sive position. On occasion, you will be assigned a security mission, such as for an artillery battery or the attached helicopter company of a higher headquarters.

When you get this kind of mission, you must harden your position, set out wire barriers, mines, booby traps, claymore mines, and improvised flame devices (such as electrically detonated *fougasse*). An open fighting position is not sufficient if you are going to stay in one spot more than a day. You must build bunkers that are designed to last. All positions should have reinforced overhead cover capable of withstanding the effects of mortar fire. Positions must be well camouflaged and have small firing apertures. The outline of the bunker must be broken up by the skillful use of camouflage to prevent silhouetting at night. The bunkers should be at least 50 meters behind the inner barrier wire to be out of hand grenade range and to reduce the damage from enemy employed claymore mines. Place chicken wire over the aperture of each bunker to deflect grenades. Connect each bunker with a deep zigzag pattern trench network. Cut grenade sumps throughout the trenches.

Establish dummy positions to confuse an enemy intelligence team who may be sketching the perimeter. Leave your machineguns in alternate firing positions during daylight. After dark, move them to their primary sites. Do everything possible to break the routine. Do not get into a rut and follow a schedule. The enemy will be watching and studying.

Get out to your front and try to outthink your opponent. Don't just sit and wait to get hit. The best defense is a vigorous offense. Get out and patrol around the hardened base. Set up ambushes and OPs during day and night. Place VT H & I fire on possible enemy mortar positions at night; also stake out ambushes in these positions.

If you do your job right, you can kill a lot of the enemy in a defensive perimeter, whether it's an overnight or hardened position. And that's the *name of the game*.

SWAP SHOP



[The following text is extremely faint and illegible due to heavy halftone printing.]

TRAINING NOTES



OSUT Fast Track Program

CAPTAIN BRIAN G. GRONSDAHL

The U.S. Army Infantry Training Center provides 13 weeks of common task and Infantry MOS-specific skill training for new infantry soldiers. These soldiers are fully prepared to join units that are training for wartime missions. As in any training program, though, there are some soldiers who demonstrate potential above and beyond that of the rest. These soldiers are capable of additional training beyond the baseline requirement of the standard program of instruction (POI).

The Infantry One Station Unit Training (OSUT) Fast Track Program, therefore, was created to identify those soldiers who have the highest potential for leadership and to provide them with training above and beyond that prescribed by the Infantry OSUT POI.

This program has two primary objectives.

- To challenge and further develop those Initial Entry Training soldiers who have the highest potential for leadership.
- To identify and provide a core of potential fire team and section leaders to the field.

Each Infantry OSUT training company selects up to 10 percent of the soldiers in each cycle for the Fast Track Program. The cadre selects these soldiers during their fifth week of training on the basis of individual training performance to that point, leadership potential, motivation, maturity, and self-discipline.

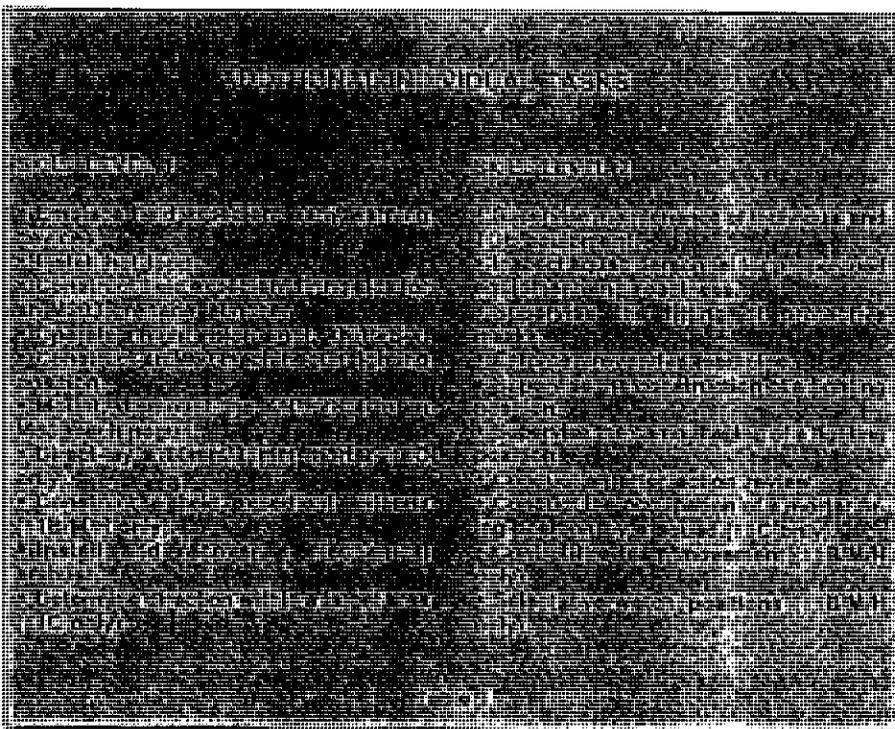
Each soldier selected is thoroughly briefed on the program and on what is expected of him. The program includes soldiers in MOSs 11B, 11C, 11H, and 11M.

Once the soldiers have been identified, they receive additional instruction and training in 17 Skill Level 1 and 2 tasks in addition to those in the POI. They are also placed in team, section, or squad leader positions, and they perform in these Skill Level 2 positions during the 162 hours that are devoted to tactical

training. Finally, they assume certain garrison leadership roles and help the cadre supervise such activities as billet maintenance, troop movements, personal hygiene, and peer reinforcement of training.

The drill sergeants and instructors thoroughly evaluate the performance of the fast track soldiers each day. If the soldiers do not live up to their potential, they are removed from the program.

The soldiers are taught individual tasks (shown in Table 1) that emphasize prepa-



SQUAD TACTICAL COLLECTIVE TASKS	
MANEUVER	
<ul style="list-style-type: none"> • Move. • Assault. • Defend. • Break Contact. • React To Contact. • Overwatch and support by fire. • Conduct point ambush. • Occupy assembly area. • Occupy (objective) rally point. • React to rear ambush. 	
MOBILITY/SURVIVABILITY	
<ul style="list-style-type: none"> • Prepare for chemical attack. • Prepare for nuclear attack. • Maintain OPSEC. • Cross water obstacle. 	
INTELLIGENCE	
<ul style="list-style-type: none"> • Conduct reconnaissance of an area. 	
AIR DEFENSE	
<ul style="list-style-type: none"> • React to air attack. 	
Table 2	

ration for combat. Except for those with the 11C MOS, they are taught to perform as fire team leaders on 16 squad tactical collective tasks (Table 2). All of this instruction is conducted within the prescribed length of the Infantry OSUT course, and it is designed to get the most out of these new warriors.

The soldiers who successfully complete the Fast Track Program receive accelerated advancement to Private-2. Exceptional 11M soldiers, after they complete the Bradley Fighting Vehicle basic course, may be selected to attend the 11M20 gunner course. Those who graduate from the latter course are promoted to Private First Class.

The Infantry Training Center has developed a comprehensive notification system to see that the units who will get these soldiers know they are products of the Fast Track Program. For soldiers in COHORT units and those with pinpoint assignments, a form letter is sent directly to the gaining unit's command sergeant major. For non-COHORT soldiers assigned to the continental United States without pinpoint assignments, these let-

ters are sent to the gaining division or installation command sergeant major.

A monthly message sent to each major command identifies the fast track soldiers who are going to them, and each successful graduate is awarded a Department of the Army Certificate of Achievement that will be placed in his military personnel record jacket (MPRJ). Every soldier has an additional letter placed in his Individual Training Record (ITR) and his record is annotated with the additional tasks he has been taught.

The Center's efforts in the Fast Track Program are aimed at giving infantry units throughout the Army better trained and more highly motivated soldiers who are capable of functioning as fire team leaders.

Captain Brian G. Gronsdahl was Assistant S-3 at the U.S. Army Training Center at Fort Benning when he wrote this article. He previously served as a battalion operations and training officer in the 2d Infantry Training Brigade and commanded a company in the brigade. He is enroute to a new assignment in the 25th Infantry Division.

Weapons, Terrain, and Tactics

MAJOR ANTHONY M. COROALLES

Successful tactics result from the proper employment of weapons on terrain against a reacting enemy. These three elements—weapons, terrain, and enemy—interact with each other to produce certain dynamics that every tactical commander must understand if he is to employ his unit to the best advantage. An analysis of these fundamental elements and the dynamics that they produce may shed some light on the foundations of proper tactics and give tactical commanders a frame of reference they can

use under differing field or combat conditions.

The most likely place to start such an analysis is with weapons, since tactics have generally been developed to take advantage of the effects of the weapons or to counter these effects. The close-order, shoulder-to-shoulder tactics of Napoleon and Wellington were a product of the slow-firing, short-range, muzzle-loading weapons of the time.

Conversely, the open-order infiltration tactics of World War I were a reaction

to the machineguns, the rapid fire artillery, and the barbed wire that were present on those battlefields. In each case, the tactics resulted from the weapons employed at the time.

Today, our tactics still reflect our weapons. And as before, good modern tactics must be designed to make the most of the effectiveness of our weapons while reducing their limitations.

Since military organizations are a blend of men and weapons, the role of our tactical unit leaders is to apply these

organizations to accomplish an assigned mission. Thus, to a large degree, the job of a tactical leader is to apply his available weapons as effectively and efficiently as possible against an enemy who is trying to do the same.

When planning the employment of weapons, the first consideration must be their range, which is the basis of proper tactical employment. In an open field, for example, a group of soldiers armed with pistols would be totally dominated by a much smaller group armed with M16A2 rifles, because the soldiers armed with rifles could outrange those with pistols. Thus, the riflemen could hit the men armed with pistols, while the men with pistols could not hit those with rifles. In a similar fashion, an M60 machinegun would dominate an M16 rifle, and an artillery piece would dominate a machinegun.

Another employment consideration is the rate of fire of the weapons in question. If, instead of being armed with M16s, the riflemen were armed with muzzle loaders with a 200-meter range, would the rifles still be able to dominate the quicker firing, but shorter range pistols? In this case, the answer is no longer so simple. The solution to the problem must now consider the time it takes to reload the rifles and the closing time for the men with the pistols. This thought process should sound familiar, since it is the same one we use when we position longer range, but slower firing antitank weapons against tanks.

Of course, war doesn't take place in open fields with only one type of weapon on each side; many other variables must also be considered. By isolating these particular factors, though, we can gain

some valuable insights into the way weapon capabilities affect tactics.

If, as I have argued, weapon range is of primary tactical importance, then any tactical significance terrain has results from its effect on a weapon's range and on visibility. Terrain is the medium over which we move and use our weapons. When we defend, we want to deny the enemy movement over terrain by bringing him under fire. When we attack, we want to use the terrain to protect us from the enemy's fire as we advance toward him.

CONCEPTUALIZE

The quality that separates a good tactician from a poor one is the ability to conceptualize the effect of terrain on his available weapons. A good tactician uses the terrain over which his units will fight to improve the effects of his weapons on the enemy while reducing the effects of the enemy's weapons upon him. A poor tactician, on the other hand, looks at terrain as a nuisance that serves only to hamper the range of his own weapons.

With this in mind, let's consider the case of a light infantry platoon that is given the mission to defend. A light infantry platoon consists of a mixture of weapons with a variety of ranges—rifles, M249 and M60 machineguns, M203 grenade launchers, LAWs, and perhaps an attached Dragon. But the platoon leader is faced with a dilemma: The weapon present in the greatest quantity in his platoon, the M16 rifle, is also one of the weapons with the shortest range. Conversely, the weapon with the greatest range in the platoon, the M60

machinegun, is the organic weapon present in the fewest number.

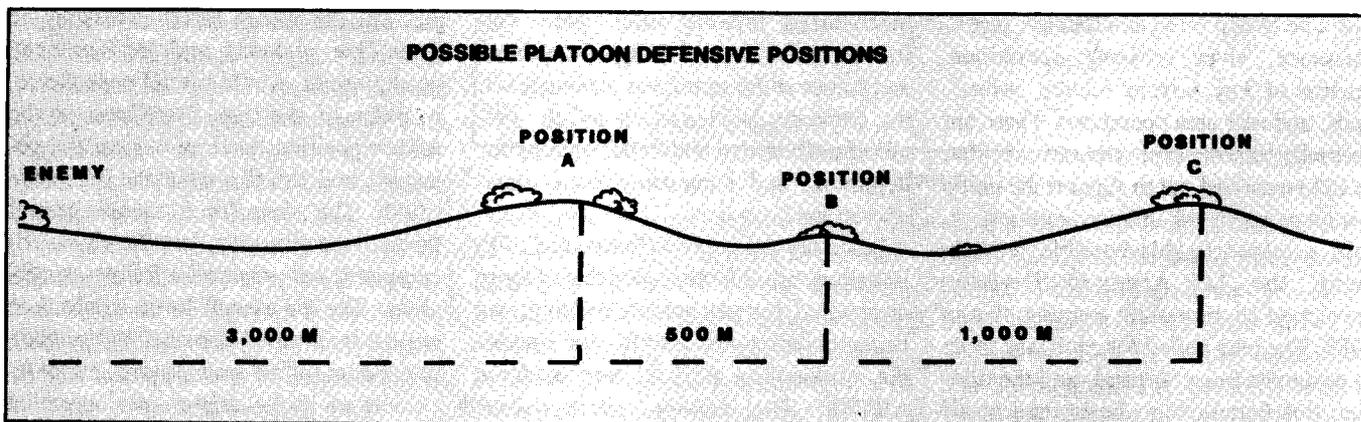
How do we use all of these diverse weapons to the best advantage? Do we base our defense upon the weapon with the shortest or the longest range? Consider the example shown on the accompanying sketch.

A platoon leader can deploy his platoon at either A, B, or C. If he positions his platoon at A, he takes the greatest possible advantage of visibility and of the range of his machineguns and Dragons. But an enemy approaching Position A merely has to halt and call in indirect fire on the exposed frontal slope. Or if he is motorized, he can simply remain at a standoff range and hit the forward slope with a longer-range direct-fire weapon.

In this case the infantry platoon leader at Position A is in the same unhappy situation as the men carrying pistols against the riflemen in the open field. He cannot hit back. As fundamental as this mistake may seem, U.S. forces in combat have defended in this fashion time and time again with predictably grim results.

If the platoon leader deploys his platoon on Position C, he is not substantially better off than he was at Position A. Although he can cover Position B with his machineguns and Dragons, an enemy force needs only to place four machineguns on B to have twice the firepower of the platoon on Position C. With this number of machineguns, an enemy could suppress the two friendly machineguns and have machineguns left over to make life on the forward slope of C most uncomfortable for the friendly soldiers.

By emplacing his platoon on Position B, a platoon leader can get the most power from his available weapons while



keeping the effects of the enemy's weapons to a minimum. From Position B, M16 rifles can cover Position A, thus bringing to bear the bulk of the platoon's weapons. In the other positions, the M16s cannot be brought into play because the machineguns have a greater range than the rifles. Here, by using the terrain, the platoon leader has eliminated the range advantage of the enemy's weapons.

For the infantryman, this is the greatest advantage reverse and counterslope positions offer—they equalize range differences between enemy and friendly weapons. This is particularly important when a light force is dealing with a heavier force. Additionally, reverse and counterslope positions prevent enemy observation of friendly positions and thus keep accurate indirect fire from being called in from long range.

This example serves to illustrate two

tactical rules of thumb: First, if you can see farther than you can shoot with most of your weapons, you're probably defending in the wrong position. Second, when attacking, place your overwatching weapons so they can hit the enemy from as far away as possible. Thus, in the defense, try to keep the enemy from achieving standoff over you, while in the attack, position your weapons to achieve standoff over most of his weapons.

As can be seen from this limited example, proper tactics are the product of a thought process that takes into account three main variables: the capabilities and limitations of friendly weapons; the capabilities and limitations of enemy weapons; and the use of terrain to make the most of friendly weapon capabilities while reducing their limitations in relation to the enemy's weapons.

All of these factors must be considered

in dynamic interaction with each other. Only then will a tactician be able to arrive at a proper solution. Considering only one or two variables will inevitably lead to a bad decision. After all, if one does not consider the effects of the enemy's weapons, emplacing a platoon on Position A doesn't seem to be a bad idea.

Whether a unit is light or heavy, and whether the leader in charge is a squad leader or a battalion commander, he should always consider the terrain in relation to the capabilities of his own as well as his enemy's weapons.

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Airmobile Operations For Mechanized Infantry Units

CAPTAIN MARK W. McLAUGHLIN

In certain situations on the battlefield, mechanized infantry soldiers may have to exchange their M113s or Bradleys for UH-1 or UH-60 helicopters. Typical air assault operations that mechanized forces could be called on to conduct are reconnaissance, river crossing operations, seizure of key terrain (choke points), raids, and rear area operations. These are normally short-term operations that would be carried out to support the unit's armor or mounted infantry mission.

In response to this possible requirement, the 1st Armored Division developed an air assault training plan in 1988. The plan called for each task force to designate one company, and the division one battalion, to be trained in air

assault operations. Air assault missions were then incorporated into the general defense plans of the trained units as contingencies.

Although the infantry soldiers in the mechanized infantry units were well trained in dismounted or light movement and tactics at the squad and platoon level, the company headquarters and the battalion staff needed additional training for deploying and supporting their units' operations.

Since my company—Company C, 7th Battalion, 6th Infantry—was one of those designated for air assault training, we began planning and training for a possible mission as part of a task force ARTEP. The mission, code named

“Gator Strike” (Figure 1), can be used as an example of the way a mechanized infantry air assault operation is conducted.

The concept of the operation was simple. The air assault force, consisting of three line platoons and the company headquarters, would lift off once the remainder of the task force was in the assault position, land on or near the objective, and secure it when the fires were lifted. The task force would assault through the objective, join the air assault company, and prepare for follow-on missions. The air assault force would then collect its organic vehicles and prepare to conduct follow-on missions, either by vehicle or by helicopter. An operation

like this one normally would be conducted to seize a key choke point, secure a bridge, or disrupt enemy command and control measures on the final objective.

During a computer simulation of this operation, the company was given the mission of seizing two bridges that were key to the task force's scheme of maneuver; they were possibly held by enemy units of squad or platoon size. We organized for combat (Figure 2), conducted our backward planning, coordinated with the adjacent and supporting units, and briefed the task force S-3.

At H-hour, the company conducted its air assault and joined with the remainder of the task force within 30 minutes after it had secured the area by clearing out a dug-in enemy platoon that had been watching the bridges.

The task force's leaders conducted the necessary coordination throughout the mission. We found that the coordination had to be exact and complete, not just for the indirect fires and linkup points but also for the direct fires of the armored vehicles and for the recognition signals between friendly forces. (At more than 2,000 meters, it is difficult for a tank commander or a forward observer to distinguish friendly soldiers from enemy soldiers on the ground.)

Although we were unable to execute an air assault mission during the actual ARTEP, the simulation exercise validated the concept of an air assault by a dismounted company in support of a mechanized infantry-heavy task force in the attack. The company and task force commanders were confident that, in an actual operation, such a mission would succeed in disrupting an opposing force's initial line of defense or in securing a key choke point in support of an attack.

We did learn several important lessons from the simulation, though. First, if a mechanized unit's training in air assault operations is to be effective, it must emphasize small unit actions; most such operations are executed at the company or platoon level. (The standard heavy division has 15 to 22 utility helicopters that can be dedicated to a single-lift tactical mission. To support a task force level air assault, though, the division's aircraft would have to be supplemented by corps or theater aviation units.)

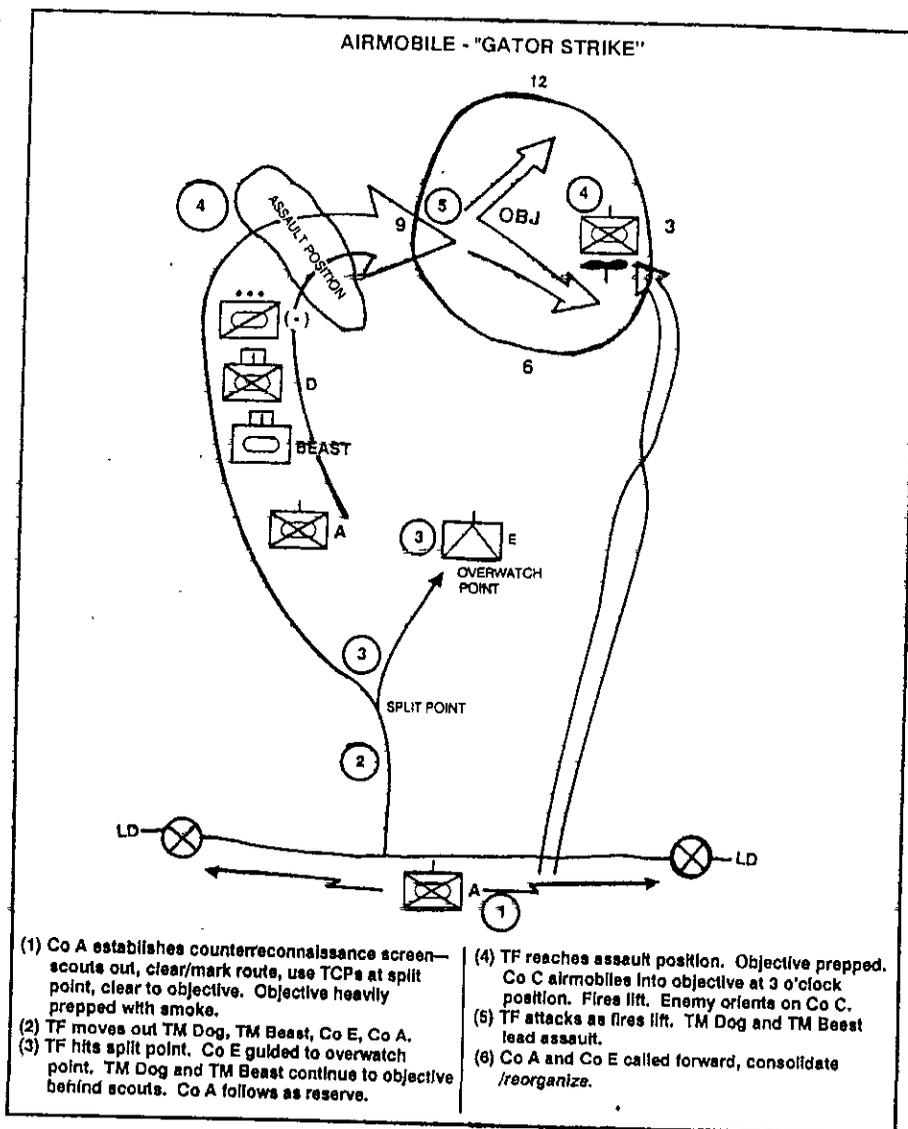


Figure 1

TASK ORGANIZATION					
AIR ASSAULT FORCES			MOUNTED FORCES		
1 PLT (-)	2 PLT (-)	3 PLT (-)	VEH SECTION	CO TRAINS	
1 OFF, 21 EM	1 OFF, 21 EM	1 OFF, 21 EM	1 OFF, 24 EM	8 EM	
			14 M113A2	2 M113A2	
			1 FISTV	1 VTR	
AA SEC	CO HQ				
10 EM	1 OFF, 3 EM				

Figure 2

At least once before the operation, the air assault force should practice the standard battle drills of loading and off-loading and air mission planning with the aircraft. Training must stress the linkup of forces, fire support coordination, and direct fire control, because the mecha-

nized infantry battle moves faster than the light infantry battle and is more deadly to dismounted soldiers in the open. In addition, the dismounted element must train without much of its normal equipment, and the mounted element must learn to maneuver without the protection of the

dismounted element.

Organizing a mechanized infantry company for an air assault operation requires a different approach, because the force must include two separate elements—mounted and dismounted—each with a distinct mission. If designated to conduct an air assault operation, a pure mechanized infantry company, with attachments, has between 100 and 115 soldiers assigned to it. The company is divided into four elements—air assault, mounted, headquarters, and support. The mounted force, however, must have a driver and a track commander for each vehicle, which takes 25 percent of the company's strength, not counting the headquarters and support personnel who have to stay with the vehicles. In all, then, only 65 to 70 soldiers are available for the air assault mission.

Because of the amount of equipment and firepower that must be left behind, the mounted element remains under the control of the executive officer. The company first sergeant controls the support elements and coordinates with the battalion administration and logistics center for the support of both the mounted and the dismounted forces during the mission.

The assault element is divided into three line platoons, a company headquarters, and an antiarmor section (created by detaching two Dragon gunners and a team leader from each platoon and placing them under the control of the company operations sergeant).

The antiarmor section is best used to concentrate all of the company's antiarmor fires along the major armor avenues of approach after it secures the objective, or it is used as a company reserve force during the initial assault. (The company's TOWs should be dismounted and taken along for defensive purposes only where a distinct long range enemy armor approach is available, an enemy counterattack is likely, and the landing zone is on or near the objective.)

Command and control in this kind of situation is, at best, difficult for the company commander. It is therefore wise for him to separate the mounted and dismounted elements until the linkup operation is accomplished, with each talking directly to the battalion tactical operations center. Fire support and direct fires must be tightly controlled between the air assault unit and the mounted forces. The task force commander can accomplish this best by assigning an officer in the TOC to coordinate with the air assault element and to ensure that the supporting fires are properly coordinated until the linkup has taken place.

The latter is the most important and dangerous part of the operation. Command and control at this stage is crucial. Communication between forces is vital, but an easily understood recognition signal is even more important. We found that marking panels could be used for this purpose, because they could be seen from a standoff distance of more than 1,000

meters in daylight. Smoke is not a good signal; it obscures the vision of both elements at the time visual contact is most critical.

Support operations are extremely limited simply because the task force does not have the assets to resupply its forces by air. The air assault element, therefore, must carry what it needs, and this depends on the amount of time before the ground element is expected to arrive on the objective. For a sustained operation, if the landing zone is on or near the objective, or if it will remain secured by the assault force, door bundles can be taken in by the air assault force to form a small immediate resupply base. The mounted element should carry along a basic resupply load so that when it finishes its linkup with the air assault force, the latter can be readied for its next mission as quickly as possible.

Many other aspects of this kind of mission are matters of unit SOP, mission, and the commander's intent. Our own efforts in that direction merely scratch the surface in expanding the AirLand Battlefield to give a heavy task force or division greater depth and maneuverability.

Captain Mark W. McLaughlin is commander of Company C, 7th battalion, 6th Infantry in Germany. He previously served as adjutant at brigade and battalion levels and has held leadership positions in light infantry and Special Forces units.

Soviet Motorized Infantry

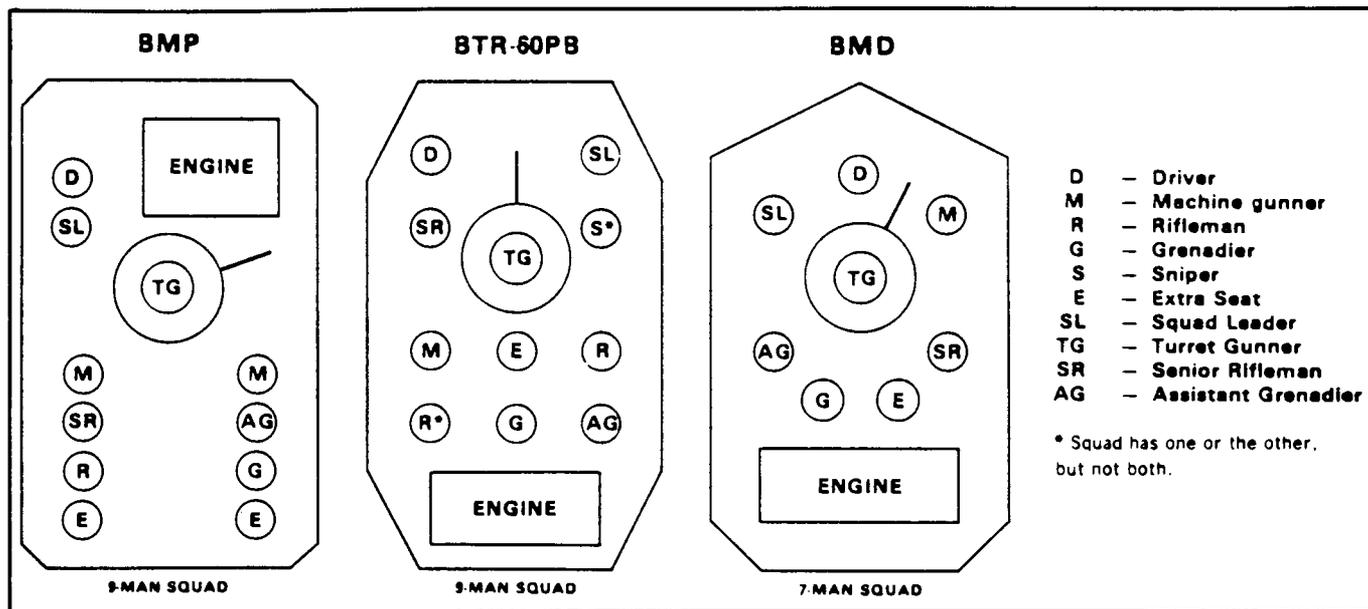
EDITOR'S NOTE: This article is another in a recurring series prepared from unclassified sources by the Threat Division, Directorate of Intelligence and Security, U.S. Army Infantry Center, at Fort Benning.

The Soviets call their infantry units "motorized rifle units." In fact, though,

their firstline units meet the Soviet definition of mechanized infantry—that is, combined arms units composed of infantry equipped with armored infantry vehicles, tanks, and artillery. The lack of infantry vehicles in many of the Soviets' rear echelon division compels them to use truck-mounted infantry units or motorized infantry. This type of unit is transported in trucks or lightly armored

vehicles, generally without tanks. (The Soviets do not field any light infantry units.)

The infantry squad is the basic combat element of the ground forces. As the organization and equipment of infantry formations have evolved, the number of infantrymen in the squad available for dismounted operations has decreased from 14 in 1950 to 9 in 1960 and to 7



Seating arrangements in the squad carriers.

in 1985. This has been due chiefly to the introduction of infantry vehicles and the improvements to them, which have reduced the space available for the dismount section.

Beginning with the introduction of the BMP infantry combat vehicle, the commander usually stayed with the vehicle during dismounted squad operations, and this further reduced the number of infantrymen available.

The Soviets prefer to fight mounted, but when they are forced to dismount they will lead with tanks followed by dismounted infantry supported by fire from their vehicles. The Soviets recognize that even this solution suffers from serious faults. Limiting the tanks to the speed of infantrymen advancing on foot presents the defender with slow-moving targets. Alternatively, allowing the tanks to forge ahead of the infantry might prematurely disrupt the mutually supporting fire of the tanks and infantry and would leave the tanks vulnerable to antitank weapons.

The tracked amphibious BMP, introduced in 1966, was a result of a long-standing Soviet requirement for a highly mobile armored carrier from which the infantry could fight, engage, and destroy enemy tanks. Its mobility and amphibious characteristics equip it for a sustained attack role.

In addition to its 73mm smoothbore gun, a coaxial 7.62mm machinegun, and

ATGMs, the BMP carries eight soldiers with assault rifles, one with a light machinegun, and one with an RPG-7/16 grenade launcher. The rifles and machineguns can be fired through firing ports located along the sides and rear of the vehicle.

The BMP-1, an improved version of the original BMP, has become the standard version of this vehicle. Although the vehicle has not changed substantially, larger firing ports have been added and the air intake ports relocated.

In April 1981 the BMP-2, an armored combat vehicle variant appeared with Soviet forces in Afghanistan and has also been seen in East Germany.

The new weapon on this variant represents the first major armament change since the BMP's introduction. The BMP-2 has an enlarged two-man turret that mounts a 30mm automatic gun with a long, thin tube and a double-baffle muzzle brake, along with a 7.62mm coaxial machinegun on its front.

An ATGM launcher is positioned on top of the turret. The AT-5/SPANDREL missile canister is usually seen on the vehicle, but the AT-4/SPIGOT may also be used on some of the BMPs. The AT-5 has an effective range of four kilometers, while the AT-4 has a range of two kilometers. The basic onboard load is four missiles. The ATGM can also be employed in a dismounted mode. The

BMP-2 also mounts three smoke grenade projectors on each side of its turret.

In addition to the improved turret armament, it is postulated that the BMP-2 may have improved armor protection.

The 30mm dual-purpose automatic gun can be used against either air or ground targets. With a maximum elevation of 74 degrees and an effective anti-aircraft range of 3,000 meters, the 30mm gun is capable of engaging low-flying, subsonic aircraft and helicopters. In the automatic mode, the gun can fire up to 550 rounds per minute, but the vehicle has only 500 rounds on board and a gunner will usually fire one-to-one-and-one-half-second bursts. For ground targets, the gunner can select either automatic or single-shot fire, with a maximum effective horizontal range of 2,000 to 4,000 meters, depending on the type of ammunition used.

The BMP-2 accommodates one less passenger than the BMP-1. Another difference is that the vehicle commander has been moved into the two-man turret with the gunner. Because of the enlarged turret, there is now room for only two roof hatches in the rear fighting compartment instead of the four on the BMP-1, and there is one less firing port on each side. There is a new firing port, however, on the left side of the hull, forward of the turret, which indicates that an infantryman now occupies the position vacated by the vehicle commander.

Light Support Platoon

CAPTAIN WILLIAM J. GODBOUT

Although the mission of a light infantry battalion support platoon is the same as that of any other support platoon, its operational capability is often stretched to the limit. To someone who has served primarily in mechanized units, this may be difficult to understand. Since a light infantry unit has very little equipment and far fewer people than a mechanized unit, one might think the platoon would have relatively little to do. But those who have served in light infantry units know otherwise. There are several reasons for this:

Resources. By MTOE (modified table of organization and equipment), a light support platoon has only 12 HMMWVs (high mobility multipurpose wheeled vehicles), 2 fuel blivets, 15 motorcycles, assorted sling-load equipment, and 8 trailers. With this equipment, the platoon must go forth to support all of the logistical needs of the 553 light fighters and 35 wheeled vehicles (plus attachments).

The way the MTOE is designed, it is possible for a light infantry support platoon to accomplish its mission with the equipment assigned to it. Problems arise, however, when the battalion commander begins reallocating its resources to other units.

A perfect example of this is the all-too-frequent reallocation of HMMWVs, radios, and trailers from the support platoon to the rifle companies. The MTOE does not provide any vehicles for a rifle company, nor can a light rifle company afford the encumbrance of a vehicle in a combat situation. In fact, it may have to sustain itself for up to 48 hours without any resupply. When resupply is needed, it is pushed forward by the support platoon to logistic release points up close to

the company's location.

Another example is the reallocation of equipment from the support platoon to the combat platoons. To "pump up" the TOW and mortar platoons, for example, some commanders will strip the support platoon. Imagine a light infantry support platoon with only seven HMMWVs (three having been reallocated to the rifle companies and two to the mortar platoon), no motorcycles, and no trailers. With its support platoon in this configuration, a light infantry battalion will starve.

The support platoon leaders do learn to use aerial resupply methods to get supplies to the forward elements. Although sling load operations are an integral part of every support platoon operation, a platoon leader should not rely solely on helicopter support to get the job done. Too often, helicopters will simply not be available to fully support his logistical needs.

Personnel. If a light infantry support platoon is to be successful both in combat and in garrison, the leaders and soldiers who are assigned to it must have an extra portion of initiative, motivation, and common sense. If they do not, their battalion faces a logistical disaster.

Too often in the past, the support platoon has had the reputation of being the dumping ground for the battalion's less desirable officers, noncommissioned officers, and soldiers—perhaps with some justification. For this reason, a lieutenant selected for the job of platoon leader seldom sees it as a desirable career move.

Fortunately, though, the commander of a light infantry battalion usually realizes that the leader of his support platoon will have more responsibilities, will gain a

broader base of knowledge, and will have a greater effect upon the battalion than any of his other lieutenants. He therefore gives the job to one of the best lieutenants in his battalion.

From the reluctant lieutenant's point of view, he should realize that in the year or so he serves in the job, he will learn many new techniques, tactics, and valuable lessons. He will become a logistician, a truck driver, a fuel handler, a cook, and a mechanic.

Likewise, the support platoon sergeant (a staff sergeant, also known as the battalion ammunition chief) must be one of the best NCOs in the battalion. He and the two ammunition section chiefs (sergeants) are critical to the survivability of the battalion. Although they are ammunition experts, as their titles suggest, they must also be experts in several other fields.

One of the sergeants, for example, is the battalion mechanic. He is responsible for the maintenance of all the rolling stock in the battalion. He is a wheeled vehicle mechanic and must be able to fix anything that moves and recover vehicles from precarious positions and dangerous locations. All three of these NCOs must be dedicated, flexible, resilient, cross trained in all duties, and able to carry out the commander's intent without detailed instructions.

Realizing this, some light infantry battalion commanders have provided incentives for some of the younger soldiers in the battalion (privates first class and corporals) who successfully complete an assignment in the support platoon.

Mission and Maintenance. A good battalion S-3 appreciates and understands

support platoon operations and considers its logistical assets when he develops his tactical plans. A light infantry "seamless web" defense requires barrier materials that must be hauled; an infiltration attack may require caches; and an air assault will require truck backup. Unfortunately, many S-3s simply put together their tactical plans and then tell the support platoon leader to "make it happen."

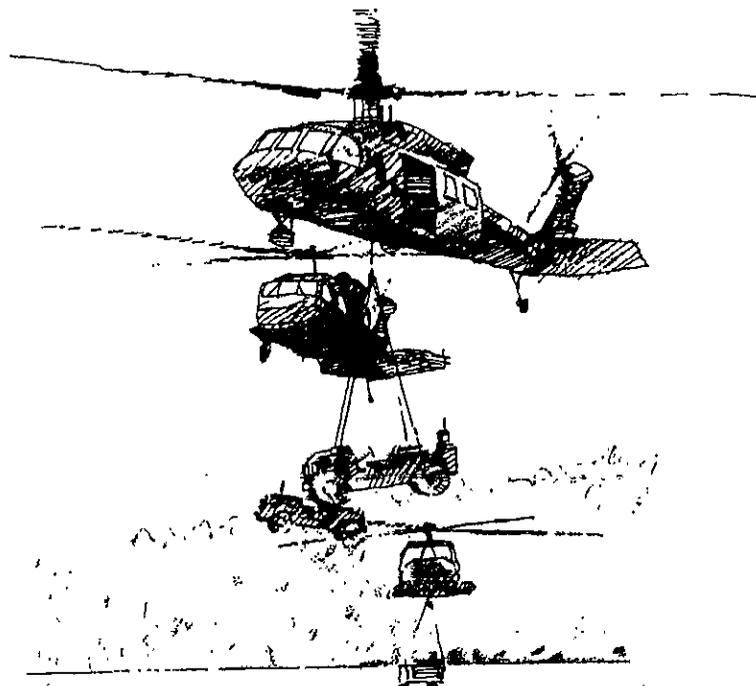
Just as all tactical plans must consider the peculiarities of the support platoon, all garrison training must consider the maintenance and care of vehicles. On many occasions, a light battalion has gone from its tactical mission to its garrison mission without considering the proper maintenance of its vehicles.

In a light battalion, it is easy enough to lose sight of the importance of proper maintenance, but it is the support platoon leader who usually takes the blame when the vehicles begin to falter and break down. He may have sounded the warning the minute he saw the long range training calendar, and he may have worked his platoon well into the night and on weekends, but he will still be accused of not having a sound maintenance program.

The smart commanders have made the motor pool an area of command emphasis and stress command motor stables religiously. It is only with this kind of command emphasis on maintenance and a "maintenance-smart" S-3 that the support platoon leader can balance his mission with his maintenance requirements.

Combat Focus. A light infantry support platoon's combat focus is critical to the survivability of the battalion. To provide resupply under combat or simulated combat conditions, the support platoon must be trained in several specialized skills. Too, independent decision making is an aptitude that all support platoon members must acquire.

One problem that any light infantry support platoon encounters is a lack of applicable references. There are many references that pertain to specific support platoon missions—FM 55-30 describes convoy operations; FM 55-450-1 explains sling-load operations; and FC 7-13 gives general logistical guidance. But the information the platoon needs to conduct resupply operations in a combat environment cannot be found in the manuals.



In the absence of references, the light support platoon must first develop a mission essential task list (METL). This list is critical to the combat focus of any unit that expects to operate in combat. From the platoon's METL, the platoon leader can then plan his training, concentrating on the tasks that are on the list.

Each support platoon leader should also develop a tactical SOP (TACSOP) that can be used for quick and easy reference during field exercises and training missions. The items a support platoon TACSOP should include are the following:

- Preparation for Combat Operations: Convoy order, vehicle loads, rucksack packing list, sensitive items, camouflage, maintenance, troop leading procedures, and alert notification procedures for emergency deployments.
- Movements: Order of march, speed and distance, convoy control, actions at enemy contact, actions at halts, close air support, NBC operations, breaching obstacles, and stand-to procedures.
- Command and Control: Communications, chain of command, and reports.
- Support Missions: Sling-load operations, refueling operations, ammunition handling procedures, recovery, maintenance, and logistical release points.

Every soldier in the support platoon

should be familiar with all the SOPs laid down by their leaders. The TACSOP will not only give the soldiers an easy reference to the other platoon SOPs, it will also make learning easier for newly assigned soldiers.

Even with a comprehensive TACSOP to improve the combat readiness of the support platoon, there is still no substitute for firm leadership and good hard soldiering.

In short, the support platoon deserves the same respect and attention the combat platoons get. This means that it must have strong leadership and top-notch soldiers; the equipment assigned to it by MTOE must be kept in the platoon; the battalion S-3 must be sensitive to the capabilities and vulnerabilities of his logistical chain; and vehicle maintenance must be incorporated into every training event. Only then will the battalion's survivability and combat effectiveness be assured.

Captain William J. Godbout served as a support platoon leader in the 1st Battalion, 14th Infantry, 25th Infantry Division, in Hawaii. He was also a rifle platoon leader, rifle company executive officer, and S-3 Air in the same battalion. He is now attending the Armor Officer Advanced Course.

two-and-one-half foot hole, chest deep, will suffice; a poncho can be stretched tight over the top to allow for the use of a filtered flashlight for map study and message copying. The command post must be a defensive entity. This means that if a portion of your perimeter is overrun, the CP will remain a fortified island that can care for itself. Your CP group must be able to fight in any direction. Radios are operated from the bottom of the hole for maximum protection. The radio is your lifeline. Take care of it.

The perimeter must be checked to insure that a minimum of one man per fighting position is awake and alert. In the jungle, I recommend *against* a leader physically walking the line during darkness. This procedure is too noisy, and jumpy soldiers have killed their fair share of squad and platoon leaders. A system I suggest is that each fighting position be connected with a piece of communication wire. The trooper who is on guard holds the wire in one hand. The wire is tugged every 20 minutes. If a fighting position does not respond to a tug, a leader is notified and he pays the position a visit. Soldiers who sleep on guard must be treated harshly.

The best defense against attack is alert soldiers, trip grenades, trip flares, anti-intrusion devices, and sharp OPs. If your OPs are on the ball and have a starlight scope, they will see and smell the enemy. Instruct your OPs when they see enemy soldiers to spray a few magazines, toss a couple of grenades, and make it back to the line yelling as loud as they can that the platoon's got visitors.

The platoon immediately should go to 100 percent alert and simultaneously hose down all sectors of fire. The artillery defensive fires should immediately be brought in, and a flare ship should turn night into day.

The enemy prefers to attack when there is no moon or during heavy rain. Increase your number of OPs and percentage of people who are on guard during these periods.

So far, we have just discussed the hasty overnight defen-

sive position. On occasion, you will be assigned a security mission, such as for an artillery battery or the attached helicopter company of a higher headquarters.

When you get this kind of mission, you must harden your position, set out wire barriers, mines, booby traps, claymore mines, and improvised flame devices (such as electrically detonated *fougasse*). An open fighting position is not sufficient if you are going to stay in one spot more than a day. You must build bunkers that are designed to last. All positions should have reinforced overhead cover capable of withstanding the effects of mortar fire. Positions must be well camouflaged and have small firing apertures. The outline of the bunker must be broken up by the skillful use of camouflage to prevent silhouetting at night. The bunkers should be at least 50 meters behind the inner barrier wire to be out of hand grenade range and to reduce the damage from enemy employed claymore mines. Place chicken wire over the aperture of each bunker to deflect grenades. Connect each bunker with a deep zigzag pattern trench network. Cut grenade sumps throughout the trenches.

Establish dummy positions to confuse an enemy intelligence team who may be sketching the perimeter. Leave your machineguns in alternate firing positions during daylight. After dark, move them to their primary sites. Do everything possible to break the routine. Do not get into a rut and follow a schedule. The enemy will be watching and studying.

Get out to your front and try to outthink your opponent. Don't just sit and wait to get hit. The best defense is a vigorous offense. Get out and patrol around the hardened base. Set up ambushes and OPs during day and night. Place VT H & I fire on possible enemy mortar positions at night; also stake out ambushes in these positions.

If you do your job right, you can kill a lot of the enemy in a defensive perimeter, whether it's an overnight or hardened position. And that's the *name of the game*.

SWAP SHOP



FIELD EXPEDIENT ACETATE

During field exercises, our unit tries to keep leaders down to squad level better informed by distributing overlays showing the company's mission and the various control measures. These overlays are usually made of a thick film acetate. Because this material is very stiff, though, the overlays are difficult to carry and easily damaged.

During a deployment to Korea, we discovered another problem. Because of the extended time in the field, we ran out of the acetate. Being excellent infantry soldiers, we scrounged around for a similar material that we could use as a substitute.

The answer was the clear plastic trash bags the Army supplies us for handling garbage. We chopped one up into pieces of the right size, drew on them the information the leaders needed, and distributed them.

A side benefit we discovered was that this plastic is tough and flexible. The leaders can now wad the overlays up and stuff them into their pockets without damaging them. The only things to worry about when using this material are to avoid stretching it out of shape by pulling too hard on it and to keep it away from hot items that could melt it.

(Submitted by Lieutenant Craig D. McKibbin, California Army National Guard, Westminster, California.)

ENLISTED CAREER NOTES



RESERVE COMPONENT NOTES

NCOLP STAFF MONITORS

Much confusion has arisen concerning the requirement for GOCOM/ARCOM commanders to appoint staff monitors for the Noncommissioned Officer Logistics Program (NCOLP).

The current regulation, AR 614-200, does not clarify the levels of command at which staff monitors are required. The upcoming replacement (AR 600-8-15) corrects this situation by clearly identifying GOCOM/ARCOMs as requiring NCOLP staff monitors.

Staff monitor is an additional duty position within the command that is responsible for managing the NCOLP. The major additional duties of the monitor include the following:

- Reviewing the use of soldiers in the NCOLP and advising the commander, the command sergeant major, and the staff on matters of assignment, utilization, logistics training, and education.
- Recommending to the commander the removal from NCOLP of soldiers who fail to maintain NCOLP standards.
- Serving as the focal point for NCOLP within his command.

More information on NCOLP matters is available from MSG Weese at (202) 696-0271/0274 or AUTOVON 226-0271/0274.

CSM PROMOTIONS

Department of the Army selection boards will convene twice in 1989 to consider eligible Army Reserve noncommissioned officers for appointment to command sergeant major (CSM).

The boards will consider applicants from Army Reserve Troop Program Units (TPUs) as well as from the Individual Mobilization Augmentation (IMA) pro-

gram, and the Individual Ready Reserve (IRR).

The first board convened on 1 May to consider NCOs according to AR 135-205, Chapter 6. The second board will convene on 28 November 1989 to consider NCOs under both Chapters 5 and 6 of the regulation. Thereafter, all boards will use the Chapter 6 criteria exclusively.

Under Chapter 5, soldiers are selected on the basis of "fully qualified" criteria; under Chapter 6, they are selected on the basis of "best qualified" criteria.

Chapter 5 applicants are typically master sergeants or sergeants major who have been filling CSM positions since before 1 November 1987. Under "fully qualified" criteria, each NCO is essentially competing only against himself.

RC SENIOR NCO BATTLE STAFF COURSE

The Senior NCO Battle Staff Course was developed to prepare senior RC noncommissioned officers for battle staff assignments at battalion level and higher.

The first pilot course was conducted at the Sergeants Major Academy at Fort Bliss in January 1989 with 48 ARNG/USAR students attending. These students will become the initial cadre who will teach the course in RC training institutions upon implementation.

A second pilot course was conducted in March at Camp Beauregard, Louisiana, for an additional 48 students.

The POI covers the S-1 through S-4 functions that senior NCOs assigned to battalion or higher staffs would perform after mobilization and culminates in a staff training exercise. The course contains 112.5 hours and is designed to be taught in a continuous two-week Annual

Training/Active Duty for Training mode.

The course is scheduled for implementation by RC training institutions beginning the first quarter of Fiscal Year 1990. Training support packages are scheduled for distribution early in the fourth quarter of Fiscal Year 1989 to allow enough preparation time for instructors.

RC PLDC TO BE REVISED

The Reserve Component Primary Leadership Development Course (PLDC) is being revised to focus more on hands-on technical skills and to be tougher and more challenging. This revision will bring the RC PLDC in line with the recent Active Army PLDC revision.

To help assure that the course will meet the constraints of the RC environment, Reserve Component personnel will be used to develop the new course and its training support package. Work on the course is expected to be completed by early July 1989 and to be pilot tested during August.

In January 1990, the U.S. Army Sergeants Major Academy (USASMA) will conduct an RC PLDC course managers' meeting and an instructor training course for the initial RC PLDC cadre. Thereafter, the course will be taught by its own graduates, in keeping with standard instructor requirements.

The implementation date for the revised RC PLDC has been set as 1 October 1990. Beginning the new course in the new fiscal and training year will avoid an overlap with the present two-phase (IDT/AT) RC PLDC, and will give RC trainers time to review the new course, reorganize their resources, and prepare for an efficient changeover.

The course will be taught only in a two-week AT/ADT mode.

OFFICERS CAREER NOTES



OFFICER ASSIGNMENTS: Readiness Group Advisors Infantry Branch, PERSCOM

EDITOR'S NOTE: This article is the second in a series that will concentrate on assignment opportunities for branch-qualified Infantry captains. The intent of the series is to inform officers of the type of duty positions available and to describe each assignment briefly. This information will help officers select assignments and discuss them intelligently with their assignment officers.

The mission of a Readiness Group (RG) is to advise and assist the Reserve Component commanders (U.S. Army National Guard and U.S. Army Reserve) located within its geographical area of responsibility. In the event of mobilization, RG advisors assume the mission of validating the combat readiness status of each RC unit.

An assignment to a Readiness Group is for 48 months (under CONUS stabilization policy) with the exception of officers who are assigned under Project Jumpstart. Jumpstart is designed to place officers with recent FORSCOM troop experience in the Readiness Groups (once

they complete their company command) where they serve for two years as advisors. Upon completion of two years in the Readiness Groups, the officers are then reassigned elsewhere.

Officers who are assigned as Readiness Group advisors will find the job challenging and rewarding. During the week (Monday through Friday), the advisors normally write and rehearse the training plans they will execute during the upcoming weekend drill. They spend the weekends with the units either conducting training or supervising the RC unit leaders who are conducting training. (A train-the-trainer philosophy has been adopted by most RG commanders.)

The peak training season is during the summer months when most units conduct their Annual Training (AT). AT is a two-week period in which the RC units deploy to a field location to undergo an intensive training and evaluation program. RG advisors can expect to be in the field continually from May through August helping units during their AT periods.

There are several advantages to an assignment at a Readiness Group. First,

and most important, officers assigned as advisors can remain technically and tactically proficient while serving in an away-from-troops assignment. Second, Infantry Branch can normally satisfy an officer's geographical preference with an assignment to a Readiness Group (depending, of course, upon the Army's requirements at the time of the assignment).

Branch-qualified Infantry captains who are interested in serving as Readiness Group advisors should contact Captain Steve Barclay at AUTOVON 221-7823.

OFFICIAL PHOTOGRAPHS

Frequently, when an officer orders copies of his official military personnel file (OMPF) in microfiche form, he discovers old photographs displayed on the fiche. This is no cause for alarm, though.

All Department of the Army selection boards now use hard copy photographs. But old items are not removed from the microfiche files (unless the files contain significant errors such as another officer's evaluation reports, letter of reprimand, Article 15, and the like). The old photographs therefore remain on the fiche.

RESERVE COMPONENT NOTES

SENIOR RATER RESTART

The Army Reserve Personnel Center (ARPERCEN) would like to hear from senior raters of Army Reserve officers to get them into the Army Reserve Senior Rater Restart Program. Senior raters may have as many as three profiles—one each for Active Army, Army National Guard, and Army Reserve officers.

The program, which began earlier this year, allows senior raters to begin building new profile histories that are more closely based on the critical "center of mass" concept. ARPERCEN officials say that too many senior raters in the past have skewed their profiles by consistently "top blocking" officers, which resulted in ratings that did not convey credibility to promotion boards.

A senior rater should consider a restart when the total number of evaluations in any one grade exceeds 100. Large numbers in the profile tend to give a somewhat distorted message to selection boards.

So-called "center of mass" ratings enable a senior rater to give a boost to the very best officers and to protect high-quality officers by rating them honestly.

ARPERCEN officials caution senior raters not to shift their rating philosophies without first restarting their profiles; to do so would send the wrong message both to the rated officers and to the selection boards that interpret the profiles when considering those officers for promotions.

No senior rater will have his profile restarted involuntarily, but rating officials are eager to help senior raters determine whether they should ask for restarts. ARPERCEN can provide each senior rater an instruction booklet and a copy of his profile history.

Senior raters who want to restart their Army Reserve profiles should write to **Commander, ARPERCEN, ATTN: DARP-PRE, 9700 Page Blvd., St. Louis, MO 63132-5200.**

Those who want to restart their Active Army and Army National Guard profiles need to contact the U.S. Total Army Personnel Command (PERSCOM) and the Army National Guard Personnel Center (GUARDPERCEN), respectively.

TOUR ADVISORY REVIEW PANELS

The Army National Guard, earlier this year, created Tour Advisory Review Panels (TARPs) to be used in managing Title 10 Active Guard Reserve (AGR) soldiers.

The panels will be held each year to give the Director, Army National Guard, a tool to use in considering soldiers for

continuation on tour, promotion, and, in some cases such as the battalion command program, reassignment.

Under the TARP concept, a soldier is considered each year during his first tour and at least every five years thereafter for continuation in the Title 10 AGR program.

In addition, other panels will be convened annually to select the best qualified soldiers to continue in the same or a higher grade.

Under the new concept, TARPs will give the Director a recommendation on each soldier—"fully qualified," "best qualified," and "not qualified."

Officers considered "fully qualified" will be recommended for continuation in the Title 10 AGR program; those considered "best qualified" will be recommended for continuation and promotion consideration; those considered "not qualified" will be reported as such with a recommendation that they not be permitted to continue in the Title 10 program. The "best qualified" soldiers will be selected from those on the "fully qualified" list.

In connection with TARP, two types of Title 10 AGR tours have been classified. The first is an Initial Tour, under which an officer enters active duty for three years for the purpose of entering a career program or serving a one-time, occasional tour, or serving in a Title 32/10 Exchange Tour.

The second classification is for "careerists," who are defined as ARNG soldiers who have been found "fully

qualified" by a continuation board and who have entered their second or subsequent tours. Individuals in the "careerist" category will be placed on voluntary indefinite orders upon reassignment.

Starting in Fiscal Year 1990, colonel panels will convene in January for lieutenant colonels with three years in grade as of 1 January; lieutenant colonel panels will convene in February for majors with four years in grade as of 1 February; and major panels will convene in March for captains with four years in grade as of 1 March.

Battalion command panels will convene in October each year and will be announced by the Director, Army National Guard.

Continuation panels will be held in April each year for warrant officers and officers who are not covered by another TARP and who are either in the third year of their initial tour or in the fifth year of a tour following their initial consideration for continuation.

Before an officer's records go before a TARP, he should make sure his tour folder includes the following:

- Official photograph, current within three years of the date of the TARP, and taken in accordance with NGR 77640-30.
- Updated official military personnel files.
- Biographical sketch.

All tour personnel should make sure their physical examination is current within five years and that it includes an over-40 screening, if applicable.



BOOK REVIEWS



This time around, we would like to call your attention to several recently published research surveys, each of which deserves your attention:

- **FALLEN IN BATTLE: AMERICAN GENERAL OFFICER COMBAT FATALITIES FROM 1775.** By Russell K. Brown (Greenwood Press, 1988. 269 Pages. \$39.95). This study identifies and recounts the careers of those general officers (and admirals) who have died at the hands of an enemy force or while on combat operations, except through clearly accidental causes—killed in action; missing in action, declared dead; died of wounds; executed or died while a prisoner of war. (Confederate officers are included.) Officers who became generals in American forces but were killed in combat while fighting with foreign forces, and Americans who were generals in foreign forces, have not been included. The book also has seven informative appendixes, a bibliography, and an index.

- **THE PEACETIME ARMY, 1900-1941: A RESEARCH GUIDE.** By Marvin Fletcher. Research Guides in Military Studies Number 1 (Greenwood Press, 1988. 200 Pages. \$37.95). After giving a detailed overview of the many changes that occurred during this 40-year period, the author presents two major sections of annotated bibliography covering 1900-1917 and 1919-1941 respectively. He cites more than 900 works, including books, articles, dissertations, and government documents. Most have been published within the past 20 years. Comprehensive name and subject indexes and suggestions for further research complete the volume. He has not included items that dealt primarily with the Navy or with the development of airpower.

- **SPECIAL OPERATIONS AND ELITE UNITS, 1939-1988: A RESEARCH GUIDE.** By Roger Beaumont. Research Guides in Military Studies

Number 2 (Greenwood Press, 1988. 243 Pages. \$39.95). Following a detailed introductory essay, this study is divided into 10 categories. The entries in each are arranged alphabetically. Complete author, title, and subject indexes are included while four appendixes provide supplemental information on elite forces and counterterrorist operations. As the author points out, his study "is subjective and organized arbitrarily" and he has given only "a broad sampling of material." Neither of these detract in any way from the overall value of his study.

- **ARMS CONTROL AND DISARMAMENT, DEFENSE AND MILITARY, INTERNATIONAL SECURITY AND PEACE: AN ANNOTATED GUIDE TO SOURCES, 1980-1987.** By Stephen E. Atkins (ABC-Clío, 1988. 400 Pages. \$65.00). This reference guide is arranged by broad topic in four chapters: arms control and disarmament, defense and military, international security, and peace. There are 1,596 entries, and each of the chapters opens with a brief essay on the scope of the subject. Subject, title, and author indexes are included.

The Sterling Publishing Company has sent us several well illustrated publications we think you will find interesting and informative:

- **STORMING EAGLES: GERMAN AIRBORNE FORCES IN WORLD WAR II.** By James Lucas (1988. 191 Pages. \$24.95).

- **WAR GAMES! REHEARSAL FOR BATTLE.** By Arnold Meisner and Will Fowler (1988. 144 Pages. \$24.95).

- **THE CROSS AND THE CRES-CENT: A HISTORY OF THE CRUSADES.** By Malcolm Billings (1988. 240 Pages. \$19.95).

The Osprey Publishing Company of London also has been sending us copies of its latest publications in its Men-at-Arms and Elite series:

- **LOUIS XIV'S ARMY.** By Rene Chartrand. Color plates by Francis Back.

Men-at-Arms Number 203 (1988. 48 Pages. \$7.95, Softbound).

- **WELLINGTON'S SPECIALIST TROOPS.** By Phillip Haythornthwaite. Color plates by Bryan Fosten. Men-at-Arms Number 204 (1988. 48 Pages. \$7.95, Softbound).

- **U.S. ARMY COMBAT EQUIPMENTS, 1910-1988.** By Gordon L. Rottman. Color plates by Ron Volstad. Men-at-Arms Number 205 (1989. 48 Pages. \$7.95, Softbound).

- **THE HANOVERIAN ARMY OF THE NAPOLEONIC WARS, 1789-1816.** By Peter Hofschröer. Color plates by Bryan Fosten. Men-at-Arms Number 206 (1989. 48 Pages. \$7.95, Softbound).

- **AMERICAN CIVIL WAR ARMIES (5): VOLUNTEER MILITIA.** By Philip Katcher. Color plates by Ron Volstad. Men-at-Arms Number 207 (1989. 48 Pages. \$7.95, Softbound).

- **LAWRENCE AND THE ARAB REVOLTS, 1914-1918.** By David Nicolle. Color plates by Richard Hook. Men-at-Arms Number 208 (1989. 48 Pages. \$7.95, Softbound).

- **THE WAR IN CAMBODIA, 1970-1975.** By Kenneth Conboy and Kenneth Bowra. Color plates by Mike Chappell. Men-at-Arms Number 209 (1989. 48 Pages. \$7.95, Softbound).

- **INSIDE THE U.S. ARMY TODAY.** By Gordon L. Rottman. Color plates by Ron Volstad. Elite Series Number 20 (1988. 64 Pages. Softbound).

- **THE ZULUS.** By Ian Knight. Color plates by Angus McBride. Elite Series Number 21 (1989. 64 Pages. Softbound).

The U.S. Army Center of Military History has recently published the first of its new series of staff ride brochures, or battlefield guides, that are intended for self-guided tours and group study. It is **THE BATTLE OF NEW MARKET**, by Joseph W.A. Whitehorne (1988. 54 Pages, Softbound \$2.00. USGPO S/N 008-029-00187-0).

This publication covers the events sur-

rounding the battle that took place on 15 May 1864 as part of the Union Army's campaign to seize control of the Shenandoah Valley of Virginia. All major points of interest are covered, including monuments, tourist centers, the museum and battlefield park, with today's roads clearly marked to ease the user's movement around the battlefield.

The brochure is available to all Army units through normal publication distribution channels. Non-Army personnel and agencies can order copies from the Government Printing Office.

Here are a number of our longer reviews:

1914. By Lyn Macdonald (Atheneum, 1988. 446 Pages. \$24.95). Reviewed by Colonel D.A. Rolston, United States Army.

Lyn Macdonald is probably my favorite military writer. While others may produce more thorough and complete histories of military actions, and some few may render more dramatic portrayals of individuals, no one brings to a reader greater realism and perception.

This book, Macdonald's latest, covers the first few months of World War I. In her foreword the author tells us that she had intended to carry the work into 1915, but found the first few months of the war to be a separate story in themselves. She therefore has had to dwell on strategic planning and on politics to provide a proper background.

Unfortunately, the latter factor, in my opinion, is the explanation for this book's lack of force and effect when compared to her earlier works. The masterful balance between the individual soldier's perspective and the historical perspective is missing in this book. While still very readable, it simply is not up to her standard. It lacks the dramatic depth and shock of her previous efforts and does not provide the scope for a proper history.

THRESHOLD OF WAR: FRANKLIN D. ROOSEVELT AND AMERICAN ENTRY INTO WORLD WAR II. By Waldo Heinrichs (Oxford University Press, 1988. 279 Pages. \$19.95).

Reviewed by Doctor Mike Fisher, Kansas State University.

Distinguished Temple University historian Waldo Heinrichs, in this fine historical synthesis, examines in detail the causes and motives that dictated the entry of the United States into World War II. It fills the void of 35 years of historical silence regarding a comprehensive effort to evaluate the precipitating events that led President Roosevelt and the nation away from isolationism and into war.

The value of this book evolves from the keen understanding and careful arrangement Heinrichs gives to the circumstances that led to the Japanese bombing of Pearl Harbor on 7 December 1941. From the diplomatic combinations, Heinrichs postulates that the bombing was the final piece in the careful arrangement of events by Roosevelt and his strategists to lead the American people into the war.

Heinrichs's thesis rests on his belief that Roosevelt sought war with the Axis powers but needed a precipitating event to bring the nation enthusiastically and cohesively into a global war. American entry into the war would not only stabilize the worsening international situation but would also provide the necessary industrial and economic catalyst to lift the nation from the depression that had devastated the American people since 1929.

Heinrichs demonstrates a masterful ability to shape and marshal the historical evidence that provides the foundation for his argument. But readers may note that he relies on the premise that Roosevelt and Winston Churchill were in almost total control of the events that dictated the final decision to go to war.

Often in the history of man, though, decisions percolate upward through the immediacy of events rather than trickle down as the result of carefully made decisions. Readers should keep this historical fact in mind as they read this book, remembering that all too often the rush of events outruns the plans of even the most perceptive strategists. Only with the passage of time do the decisions of yesterday become the carefully measured mathematical equations that grace the pages of history.

SERVICE ETIQUETTE. By Oretha D. Swartz. Fourth Edition (Naval Institute Press, 1988. 566 Pages. \$19.95).

This is one of those books that belong in the personal library of every serving Infantry officer and senior noncommissioned officer, Active Army and Reserve Components alike. It is often referred to as "the bible of military protocol," and it has been just that since the first edition was published 30 years ago.

This new edition, the first revision in more than 10 years, offers up-to-date information on such diverse subjects as official cards, smoking regulations, the evolving status of women in the services, and information specifically directed to reservists, members of the Maritime Service, and retirees. The chapter on service and civilian dress is particularly useful with its handy ready reference chart.

Other chapters discuss everyday good manners, the social side of life, the art of conversation, general correspondence, entertaining in the home, table manners, protocol, weddings, and religion.

As we said at the beginning of this review, this is a book you do not want to overlook.

NO NAME ON THE BULLET: A BIOGRAPHY OF AUDIE MURPHY. By Don Graham (Viking, 1989. 324 Pages. \$19.95). Reviewed by Ralph W. Widener, Jr., Dallas, Texas.

My first reaction to this book was "What could anyone write about Audie Murphy that has not already been said by Harold Simpson in his monumental 1975 book, AUDIE MURPHY: AMERICAN SOLDIER?"

I thought, "Not much." But I like this book because it covers Murphy's life more succinctly than the Simpson book. The author, a professor of English at the University of Texas at Austin, tells an easy-to-read story of Murphy's "growing up" years in the midst of stark poverty; his "finest hour"—the nearly 400 days he spent with the famed 15th Infantry Regiment of the equally famous 3d Infantry Division; his slow but steady maturing as an actor; and, interwoven throughout, his troubled life up to the time of his death in an airplane crash in

Virginia at the relatively young age of 47.

The book's title is the same as the title of Murphy's 25th movie, "the best western he ever made," according to the author.

I was disappointed that Graham did not include any pictures in his book, and especially the one of Murphy that appeared on the front cover of *Life Magazine* for 16 July 1945. That picture, more than anything else, catapulted Audie Murphy into America's consciousness. A bibliography would also have been helpful. There are some references in the book to other authors, but the one whose book this one most closely resembles does not even rate an Honorable Mention.

It can be said that if this book had been a movie one could attach the statement "suitable except for language" to it. And the author has a propensity for using words that send readers to a dictionary to discover their meaning in relation to what he is saying in a particular sentence.

The book should have general reader appeal. Infantry soldiers will enjoy it, and especially the chapters that deal with World War II, for they show why Audie Murphy was a cut above the average soldier and how he became the most decorated one of that war.

JANE'S SECURITY AND CO-IN EQUIPMENT, 1988-1989. First Edition. Edited by Ian V. Hogg (Jane's, 1988. 544 Pages. \$110.00).

The publisher feels that a specialized reference series of this kind has been needed for some time, considering "we now have a different breed of insurgent and a new species of terrorist."

The editor of this first edition in the new series is a well-known figure in publishing circles who has proved particularly adept at pulling together a mass of technical data and turning it into a comprehensive and comprehensible publication. He does admit to having some trying moments with this one, particularly in determining his groupings. As he points out, for example, this is "a field which does not divide itself into neat and tidy categories as do most military

fields." And he knows he has gaps in his collection of data because many of the companies he queried did not deign to reply. The latter, he believes, will sort itself out for future issues.

The book, then, has five general categories—firearms; operational equipment (vehicles, motorcycles, aircraft, boats, surveillance equipment, and EOD equipment); riot control equipment; armor and protection; and C3I equipment. It also has an addendum with up-dated information; an index of manufacturers; and a most useful alphabetical index.

THE DAY IS OURS. By William M. Dwyer (Viking, 1983. 426 Pages. \$22.50). Reviewed by Captain Michael E. Long, United States Army.

The fall of 1776 has been characterized as one of the most critical periods of the American Revolution. George Washington's Continental Army was in a state of complete chaos, and with enlistments at an all-time low, discipline and desertion rates were of great concern. This well written work provides many first-hand reports as the author tracks the American Army's retreat across New Jersey before the British and Hessian forces.

The author has done a fine job with his material and he has drawn from many primary source documents. The book's only drawback is the obvious lack of illustrations to explain the various schemes of maneuver. But the narrative holds the reader's interest from beginning to end, and it provides fresh insight into what could be considered the eight most important weeks of the Revolutionary War period.

EDWARD LANSDALE: THE UN-QUIET AMERICAN. By Cecil B. Currey (Houghton-Mifflin, 1989. 448 Pages. \$24.95). Reviewed by Doctor Joe P. Dunn, Converse College.

Recently, Neil Sheehan's highly acclaimed *A Bright and Shining Lie* has ensconced John Paul Vann as the martyr of Vietnam. But before Vann, this role belonged to Edward Lansdale.

Many similarities existed between the two men. Both were military mavericks who devoted years to Vietnam and understood the Vietnamese and the war far better than those who mis-ran it. Both were bitter critics of the bureaucratic, high technology, large-scale military approach to an insurgency problem. Both insisted that the Vietnamese had to win or lose the contest; the United States could not do it for them. Both fought with the establishment, made bitter enemies, and were shunted aside. Their reputations, however, assured that they would not be ignored. The degree of myth and legend that surrounds each man is extensive.

A biography of Lansdale is a welcome contribution. But Cecil Currey, author of the notorious book titled *Self-Destruction: The Disintegration and Decay of the United States Army During the Vietnam Era* (1981) is only partially successful. Although his hagiographic portrait is interesting, he does not go beyond a surface understanding of the man, the controversies, and the reactions he inspired. Much more needs to be known about the career of this controversial and shadowy person who was, according to William Colby, "one of the greatest spies in history." Until CIA and other records of the period become available, however, this book will probably remain the standard biography.

THE OTHER DESERT WAR: BRITISH SPECIAL FORCES IN NORTH AFRICA, 1940-1943. By John W. Gordon (Greenwood Press, 1987. 241 Pages. \$39.95). Reviewed by Captain F.R. Hayse, United States Army.

This is the story of a key period in the evolution of Anglo-American special forces. It is exciting, clear, and well-written history, and can be enjoyed by anyone from novice wargamers to senior service school students. Its clear text, extensive footnotes, and index of sources make it a must for those whose professional interests include special operations in a desert environment.

In addition to discussing the events of North Africa between 1940 and 1943, the

author, a professor of history at the Citadel, tells of the desert wars in North Africa and the Middle East both during World War I and after, and of the Italian invasion of Ethiopia in 1935.

Most readers may be aware of the legendary exploits of the Long Range Desert Group and of the origins and early operations of the Special Air Service, but only a limited amount of space has been given these operations in previous works. Gordon corrects this oversight and tells a good story about a part of the world that continues to concern us today.

TAKE THAT HILL: ROYAL MARINES IN THE FALKLANDS WAR. By Nick Vaux (Pergamon-Brassey's, 1987. 261 Pages. \$21.95). Reviewed by Leroy Thompson, Manchester, Missouri.

The author commanded the British 42 Royal Marine Commando during the Falklands War. Beginning with his unit's alert for deployment to the South Atlantic and ending with its victorious return to England, he has written a very human record of his Commandoes in combat. For an American, his account is especially readable since Vaux had only recently returned from an exchange assignment with the U.S. Marine Corps and draws interesting parallels between U.S. amphibious doctrine and the British landings on South Georgia and in the Falklands.

Another interesting portion of the book concerns the problems Vaux encountered on the long voyage from England in keeping his troops fit and ready to go immediately into combat. His was a situation that any U.S. infantry officer and noncommissioned officer can expect to encounter in the future.

Vaux tells of the trials and triumphs of his Commandoes once they went ashore. Throughout, he conveys the sense of professionalism exhibited by his Marines who were seeing their first combat. This is a book all U.S. infantrymen should enjoy reading, because the war, by and large, was an infantryman's war.

PLEIKU: THE DAWN OF HELICOPTER WARFARE IN VIETNAM.

By J.D. Coleman (St. Martin's Press, 1988. 315 Pages. \$19.95.) Reviewed by Command Sergeant Major John W. Cooper, United States Army Reserve.

In this slim volume, the author, a retired U.S. Army lieutenant colonel who saw service in both Korea and Vietnam, has written a dramatic account of the 1st Cavalry Division's battles in the Ia Drang valley in South Vietnam in the fall of 1965. At the time, he was a public affairs officer with the division; he not only took part in the Pleiku campaign, he also wrote the official after action review.

After discussing the development of airmobility doctrine in the U.S. Army from the early 1950s on and of the tests conducted by the specially organized 11th Air Assault Division (which turned into the 1st Cavalry Division in mid-1965), he tells of the division's deployment to Vietnam and its first battles.

The real strength of the book lies in its vivid descriptions of the division's battles in late 1965. The division went looking for North Vietnamese Army soldiers and found them in large numbers on and around the Chu Pong Massif near the Drang River. The author contends that as a result of the battles that were then fought, culminating in the final ones at LZ Columbus, the future of airmobility was secured and the helicopter would make a continuing contribution to the U.S. conduct of the war in Vietnam.

Sixteen pages of photographs nicely complement the narrative. But the book does need more detailed maps; the ones in it are not adequate for readers who want to see positions and follow unit movements in detail.

This criticism notwithstanding, this is a dramatic account of helicopter warfare in Vietnam that will be of great interest to all military professionals who are interested in the Vietnam War.

RECENT AND RECOMMENDED

STRATEGIC AIR DEFENSE. Edited by Stephen J. Cimbala (Scholarly Resources, 1989. 275 Pages. \$40.00).

THE CYRANO FLEET: FRANCE AND ITS NAVY, 1940-1942. By Charles W. Koburger, Jr. (Praeger, 1989. 151 Pages. \$38.95).

AND THE RUSSIANS STAYED: THE

SOVIETIZATION OF CUBA, A PERSONAL PORTRAIT. By Nestor T. Carbonell (William Morrow, 1989. 384 Pages. \$22.95).

THE DREADFUL FURY: ADVANCED MILITARY TECHNOLOGY AND THE ATLANTIC ALLIANCE. By Michael Moodie (Praeger, 1989. 160 Pages. \$10.95, Softbound).

OUTPOSTS AND ALLIES: U.S. ARMY LOGISTICS IN THE COLD WAR, 1945-1953. By James A. Huston (Susquehanna University Press (440 Forsgate Drive, Cranbury, NJ 08512), 1988. 349 Pages. \$39.50).

THE MILITARY: MORE THAN JUST A JOB? Edited by Charles C. Moskos and Frank R. Good (Pergamon, 1988. 305 Pages. \$30.00).

ANATOMY OF A DIVISION: THE 1ST CAV IN VIETNAM. By Shelby L. Stanton (Presidio, 1987. 268 Pages. \$17.95).

ARGENTINE AIR FORCE IN THE FALKLANDS CONFLICT. By Salvador Mafe Huertes and Jesus Romero Briasco. Warbirds Illustrated Number 45. Sterling, 1987. 72 Pages. \$9.95, Softbound.

U.S. MECHANIZED FIREPOWER TODAY. By Steven Zaloga and Arnold Meisner. Tanks Illustrated Number 26. Sterling, 1987. 72 Pages. \$9.95, Softbound.

F-104 STARFIGHTER. By Peter R. Foster. Warbirds Illustrated Number 46. Sterling, 1987. 64 Pages. \$12.95.

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.

EL CID AND THE RECONQUISTA, 1000-1492. Text by David Nicolle. Color Plates by Angus McBride. Men-at-Arms Series 200. Osprey. 48 Pages. Softbound.

MODERN AFRICAN WARS (2): ANGOLA AND MOZAMBIQUE, 1961-1974. Text by Peter Abbott and Manuel Ribeiro Rodrigues. Color Plates by Ron Volstad. Men-at-Arms Series 202. Osprey, 1988. 48 Pages. Softbound.

NAPOLEON'S SPECIALIST TROOPS. Text by Philip Haythornthwaite. Color Plates by Bryan Fosten. Men-at-Arms Series 199. Osprey, 1988. 48 Pages. Softbound.

UNPUBLISHED ACTIVITIES OF WORLD WAR II. By Earl J. Roberts. Scanty Press (2861 Sanders Court, Melbourne, FL 32935), 1988. 344 Pages. \$16.95.

MIGHTY STONEWALL. By Frank E. Vandiver. Originally published in 1957. Texas A&M University Press, 1988. 547 Pages. \$13.95, Softbound.

NEW WEAPON TECHNOLOGIES AND THE ABM TREATY. By Herbert Lin. Pergamon-Brassey's, 1988. 96 Pages. \$12.95, Softbound.

SDI, WHAT COULD HAPPEN; EIGHT POSSIBLE STAR WARS SCENARIOS. By John Rhea. Stackpole, 1988. 144 Pages. \$7.95, Softbound.

CHINA'S MILITARY MODERNIZATION: INTERNATIONAL IMPLICATIONS. Edited by Larry M. Wortzel. Contributions in Military Studies Number 72. Greenwood Press, 1988. 224 Pages. \$37.95.

WHY THE SOVIETS VIOLATE ARMS CONTROL TREATIES. By Joseph D. Douglass, Jr. Pergamon-Brassey's, 1988. 203 Pages. \$32.00.

THE GREEN BERET'S COMPASS COURSE. By Don Paul. Fourth Edition. Pathfinder Publications (150 Hamakua, Suite 401, Kailua, HI 96734), 1988. 90 Pages. \$6.95, Softbound.

From The Editor

INFANTRY SCHOOL DIRECTORY

The following directory is offered as an aid to people in the field who may have questions they want to ask the various departments and divisions of the Infantry School. All telephone numbers are AUTOVON. To call the Fort Benning numbers on commercial lines, dial area code 404 and convert 835 prefixes to 545 and 784 prefixes to 544.

In addition to these points of contact, the Infantry School main-

tains a hotline specifically to receive questions and comments from the field. The number is AUTOVON 835-7693; commercial (404) 545-7693. Questions received are recorded, and answers are returned within 48 hours. Lengthy questions or comments should be sent in writing to Commandant, USAIS, ATTN: ATSH-SE, Fort Benning, GA 31905-5452.

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