

Infantry

July-August 1993



Infantry

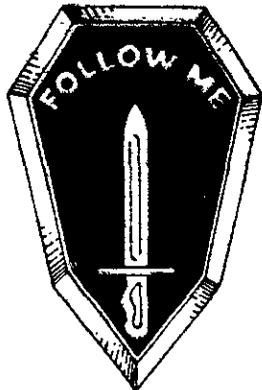
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FRONT COVER: The crew of a Browning water-cooled machinegun supports troops maneuvering against German forces holding a French village in 1944.

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INFANTRY NEWS



THE DIRECTORATE OF COMBAT Developments has submitted the following news items:

Bunker Defeat Munition. The bunker defeat munition (BDM), scheduled for fielding to specific infantry and engineer units in early 1996, is intended to defeat earth and timber bunkers.

The BRD, a non-developmental item, will be a round of ammunition weighing no more than 17 pounds and measuring no more than 40 inches in length. It will be fired from a disposable launch tube (like the AT4 and the M72A3) with a required range of 150 meters. The BDM will be carried and operated by an individual soldier and will be capable of mounting night vision equipment such as the AN/PVS-4, the AN/PAQ4A/B, and the thermal weapons sight.

During the source selection process, three candidate systems competed in a side-by-side "shoot-off" to determine which system best met the Army's requirements in terms of cost and overall performance. The candidates will also be evaluated on their effects against such secondary targets as light armor and brick or concrete walls, and also their ability to defeat bunkers out to 250 meters.

The Red Dot Sight. The red dot sight, now being tested, enables a soldier to keep both eyes open while firing, which improves his peripheral vision. Although

the dot does not appear on the target, the round a soldier fires will hit the target at the spot where the red dot shows in his sight.

If the sight now being tested meets all requirements, it will be issued to all infantry units.

The Modular Weapon System. The modular weapon system—now a modified M16A2 rifle or M4 carbine with a system of rails built onto it—will allow a soldier to mount an assortment of accessories such as an optical, thermal weapon, or other sight; a grenade launcher; or a range finder. A unit leader will be able to customize the system to fit the needs of a given mission, environment, or operational requirement.

THE FOLLOWING INFANTRY manuals either have been published recently or will be published by the end of this fiscal year:

FM 57-38, Pathfinder Operations, published in April 1993, provides information on the training and employment of pathfinder and terminal guidance personnel. The tactics, techniques, and procedures regarding various missions may be modified as needed for various air assault operations.

TC 7-9, Infantry Live-Fire Training, bridges the gap between individual and collective marksmanship training. It ad-

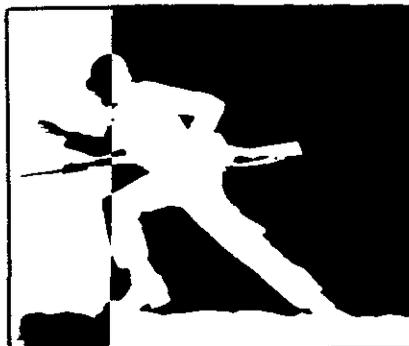
dresses both fire and maneuver with emphasis on live-fire exercises (LFXs) for dismounted infantry. It also provides guidance and examples to help the commander set up mission-specific LFXs.

TC 90-1, Military Operations on Urbanized Terrain Training, provides guidance for leaders who plan and conduct training to prepare soldiers to survive and win in urban combat. Although this manual is keyed to the standard MOUT training complex, it can also be applied to other MOUT training facilities.

CORRECTION, SLEEPING EDITORS Department: When INFANTRY's editorial staff prepared the biographical data that accompanied Master Sergeant Michael L. Collis's article "Physical Fitness in the Reserve Components" (May-June 1993, pages 42-44), we somehow used information from another author's bio sheet.

Sergeant Collis is a master fitness trainer (that part we got right). He is assigned to the 2d Battalion, 124th Infantry, Florida Army National Guard. He previously served on active duty in various infantry assignments with the 7th Infantry Division, the Berlin Brigade, and the 25th Infantry Division. He is a graduate of the Sergeants Major Academy.

Our apologies for the confusion.



PROFESSIONAL FORUM



Lightweight Company Mortars Options for Employment

LIEUTENANT CHADWICK W. STORLIE

The M224 60mm lightweight company mortar system is an excellent indirect fire weapon, thanks to its responsiveness, range, light weight, and high rate of fire. Shortcomings in employment, fire support, logistical resupply, and training, however, significantly hamper the use of organic indirect firepower in the air assault, light infantry, and airborne battalions equipped with these mortars.

Employment. Too often, the 60mm mortars are forgotten during infantry operations. Company commanders are too busy with direct fire engagements, movement, logistical considerations, artillery indirect fire support, attack helicopter fires, and checking their infantry platoons to place their mortars properly, maneuver, and direct their fires.

Fire Support. If an infantry battalion is to make the most of its organic indirect fire support, it must be able to mass all of its 60mm and 81mm mortar fires. Unfortunately, current doctrine and fire support channels have no system in place for controlling and massing the fires of both of these systems at the same time.

Logistical Support. To take full advantage of the 60mm mortar's close-in fire support, high rate of fire, and quick responsiveness, a unit needs a large

amount of ammunition readily available. A rifle company simply cannot carry this much ammunition and get it to its mortar section quickly enough, especially in dispersed operations such as search and attack or during low intensity conflict operations. The doctrinal solution of having each man carry two rounds in his rucksack is unrealistic.

Training. Because 60mm mortar training is rarely given priority in garrison operations, units must conduct hasty training before their live-fire range training and field problems. Because of the number of available soldiers in MOS 11C, a company mortar section is usually commanded by a junior sergeant with little experience in training and operating a 60mm mortar section. Rifle company training, both individual and collective, focuses on 11B skills and tactics and rarely allows 11C soldiers to exercise the full freedom they need to train effectively. In addition, companies often lack the necessary knowledge in basic mortar operations to train their 11C soldiers to standard.

In an effort to correct these deficiencies in employment, fire support, logistical support, and training, I would like to explore the concept of a battalion 60mm mortar platoon, examine the advantages

and disadvantages, and offer a recommendation on each employment method. This platoon would not replace the company mortar sections, but it would make the most of mortar employment in situations that do not normally favor 60mm mortar operations at company level.

Although the proposed platoon is based upon the modified tables of organization and equipment (MTOEs) for an air assault infantry battalion, with slight modifications it will also work for a light infantry or airborne battalion.

The 60mm mortar platoon would consist of two three-gun sections, with all the equipment and personnel from current MTOEs. Each section would be organized as follows:

- Nine soldiers—one staff sergeant, two sergeants, three corporals, and three privates first class as shown in Figure 1.
- Assigned individual weapons.
- Two AN/PRC-77 radios (with KY-57 secure devices).
- Three M224 mortar systems.
- Three M23 mortar ballistic computers (MBCs).
- Three M2 compasses.
- One M998 high mobility multipurpose wheeled vehicle (HMMWV) to assist in movement and resupply.
- TA-50 by DRF-1 packing list.

- Nuclear, biological, chemical (NBC) equipment as dictated by the mission oriented protective posture (MOPP) level.

- All other associated equipment authorized by the modified tables of organization and equipment (MTOEs).

One HMMWV would be supplied by the antiarmor company and the other would be from the headquarters and headquarters company's (HHC's) 81mm mortar platoon. The responsibility for supplying the additional AN/PRC-77 radio and KY-57 Vinson secure device would rotate among the three rifle companies.

Employment

The two mortar sections could be employed either under task force control or, along with the 81mm mortar platoon, as a mortar team (Figure 2).

Using the first of these options, the 60mm mortar sections, with three mortars each, would maneuver under the control of the battalion commander and the S-3, with guidance from the battalion fire support officer (FSO). The 81mm mortar platoon would maneuver separately from the 60mm mortar sections but in support of the battalion's overall fire support plan. The two 60mm mortar sections might locate together as a platoon, depending upon conditions of mission, enemy, terrain, troops, and time (METT-T). The section leaders would attend battalion orders briefings and resupply directly from the battalion combat trains.

Using the mortar team option, the 81mm mortar platoon leader would maneuver the two 60mm mortar sections (three mortars each) and his own 81mm mortar platoon (four mortars) in support of the battalion fire support plan with guidance from the battalion commander, S-3, and FSO. As with option 1, the two 60mm mortar section leaders would attend battalion orders and resupply directly from the battalion combat trains. Although the 81mm mortar platoon leader would be responsible for the command and control of the two 60mm mortar sections, each section would retain responsibility for its own resupply.

In addition, an integrated 60mm mor-

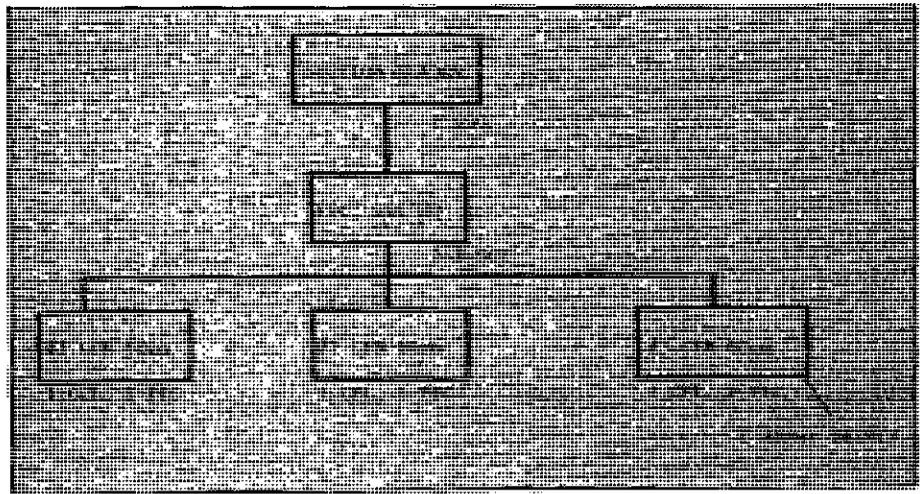


Figure 1. Section organization.

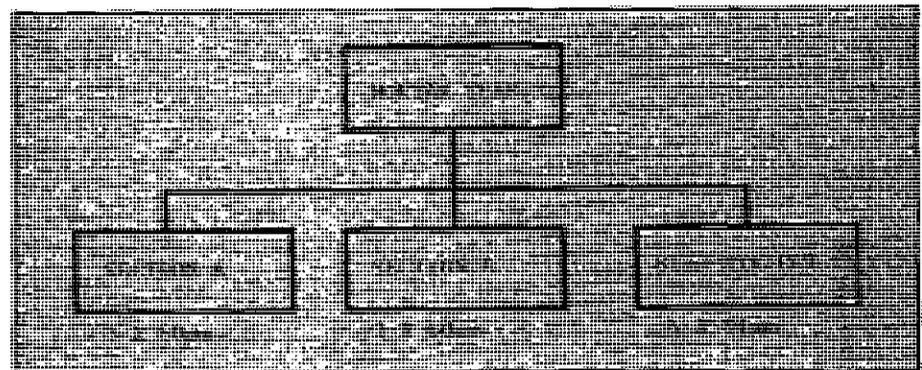


Figure 2. Mortar team employment.

tar platoon could be used under either of these concepts. The senior staff sergeant from the rifle company mortar sections would lead the 60mm mortar platoon. He would attend task force operations orders and coordinate resupply directly from the battalion combat trains. All other section operations would be the same as those described above.

Each 60mm mortar section could be positioned according to one of three common methods—in line, in a "V" configuration, or by terrain mortar positioning (TMP) (Figure 3). METT-T considerations would determine the best method to use.

A 60mm mortar section could usually provide its own limited local security. Figure 4, for example, shows the "V" configuration. The following defensive measures would also be in place to supplement this defense:

- All soldiers would be armed with M16A2 rifles.
- Claymore mines and hand grenades would fill out the defense.

- Each mortar would be positioned to fire down one "leg" of the triangle, similar to the way M60 machineguns are placed in a patrol base.

- Close-in fire support by direct lay/direct alignment would be provided by the 60mm mortars.

Command, Control, and Communications

The addition of two more maneuver, indirect fire support elements to an already cluttered battlefield would place a command and control burden on the already-hardpressed battalion tactical operations center (TOC) and the S-3. Close control of the 60mm mortar sections by the battalion S-3, however, and accurate reporting by the sections would reduce these problems.

With the two 60mm mortar sections under task force control, both of the staff sergeant section leaders would report their progress on the battalion command net. They would report only their positions and ammunition status and strictly

monitor the battalion command net. Most of their radio traffic would be in receiving calls for fire on the 81mm mortar fire direction center (FDC) net or on one of the company 60mm mortar nets designated for FDC use. For resupply and logistical coordination, the sections would switch to the battalion administration/logistics (A/L) net.

Under the mortar team concept, the 60mm mortar sections would monitor both the battalion command net and the 81mm mortar FDC net. The 81mm mortar platoon leader would maneuver the 60mm mortar sections over the 81mm mortar FDC net, and all calls for fire would be on the 81mm mortar FDC net. Here, too, the 60mm mortar sections would drop down to the battalion A/L net for resupply and logistical coordination.

Fire Support

Mortar fires need to be able to mass quickly, fulfill the commander's intent for fires, and then, just as quickly, decentralize to continue supporting the battalion task force. Currently, 60mm mortar fires are cleared from the company FSO to the battalion FSO. With all mortar fires centralized on one FDC net, the battalion FSO could quickly and reliably clear all mortar fires. This method would increase the timeliness of fire missions and eliminate unnecessary links in the chain that could result in garbled messages and greater risk of fratricide.

Under a centralized mortar FDC net, the battalion FSO, or one of the company FSOs, could also effectively mass the mortar fires of the entire task force onto one target. This would greatly improve the battalion task force's organic indirect fire capabilities and lead to better target effects. Furthermore, there could be a mortar indirect fire main effort in which the battalion S-3 planned to mass fires for attacks, raids, suppression of enemy air defenses, and the like.

The battalion task force commander, S-3, and FSO would have a variety of mortar employment options. For example, the company designated as the main effort in the attack could receive priority of 105mm artillery fires, the company with the secondary effort priority of 81mm mortar fires, and each of the two

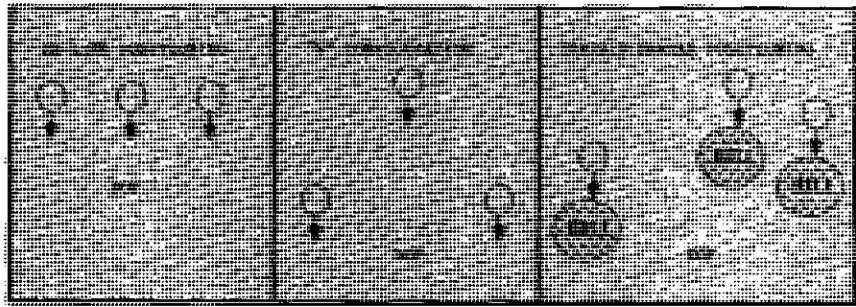


Figure 3. Common positioning methods.

remaining companies priority of a 60mm mortar section. This option would allow each company commander a full-time, dedicated, and effective indirect fire support option.

The 81mm mortar FDC net centralizes mortar fire missions, which would allow any company FSO to call the 81mm mortar platoon or one of the 60mm mortar sections to receive a fire mission. Because of the number of mortar fire support options, decentralized fire support to supported units and centralized control and clearing of all mortar fires on one net would simplify fire support, maintain unity of effort in 60mm mortar employment, and ensure a system of clearing all battalion mortar fires, thus reducing the probability of fratricide from indirect fire.

Logistical Support

No matter which methods of employment, command and control, and fire support are used, the most vital need is for a dependable resupply of ammunition, fuses, spare radio batteries, and the like.

The best means of transporting 60mm ammunition is first by air and second by vehicle. Ammunition for the 60mm mortars could be sling-loaded in A-22 bags or 10,000-pound cargo nets and dropped at the two separate 60mm section positions; or it could be carried by the HMMWV attached to each 60mm mortar section. These methods would allow the 60mm mortar sections to receive a large resupply of ammunition by air and carry the excess in the HMMWV. The HMMWV would also give the 60mm mortar sections adequate ammunition in a hipshoot situation.

The attached HMMWV would also be

the primary source of sustainment for the 60mm mortar sections, carrying not only ammunition but also Class I resupply, five-gallon water cans, and the like. In short, the HMMWV would give the 60mm mortar section an effective way to sustain itself. In case of maintenance problems, the vehicle would be evacuated directly to the combat trains.

Training

For the concept of 60mm mortar sections or platoons to be effective in the field, company mortar sections would need to train together in garrison. Unified training for the sections would provide better IIC training, focus mortar resources and knowledge at one location, and establish a battalion standard for a 60mm mortar section.

The 81mm mortar platoon leader would supervise the planning and execution of 60mm mortar training. The senior 60mm mortar NCO would become the NCO in charge of planning and executing battalion 60mm mortar training. The company executive officers (XOs) would provide resources and logistical assistance to all planned 60mm mortar training. The intent would be the centralization of training resources and knowledge but the decentralization of training execution.

The 60mm mortar sections would have their own scheduled field training exercises (36 to 48 hours) in which to practice specific tasks. On battalion field training exercises, the sections would deploy in accordance with the battalion commander's and the S-3's task organization for 60mm mortar support (that is, the task force control concept, the mortar team concept, or separate company 60mm mortar sections).

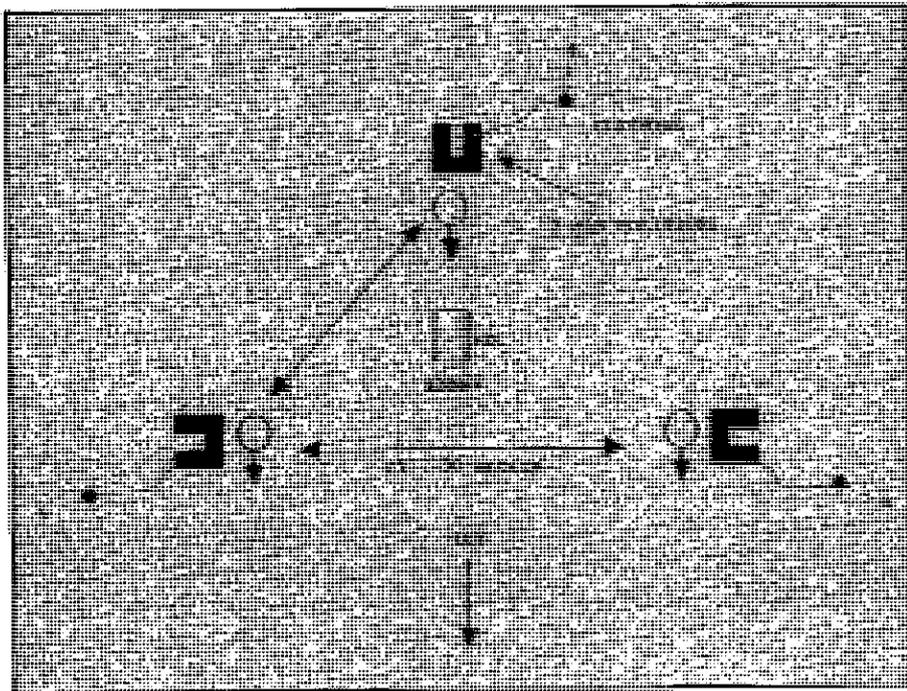


Figure 4. 60mm section position "V" formation.

Company 60mm mortar sections would perform weekly maintenance on Mondays with their respective companies, while Tuesdays, Wednesdays, and Thursdays would be 60mm mortar training days. Company time, personnel actions, and soldier appointments would be on Fridays. Battalion training events, however, would take priority over all mortar training.

Unified 60mm mortar training would allow the battalion to establish standing operating procedures (SOPs) for 60mm mortars. The soldiers in the 60mm mortar units could practice occupation of positions, misfire procedures, and laying the mortar together to establish SOPs for all 60mm mortars. This would enable the company commanders to expect and demand a basic standard of 60mm mortar support and the sections to operate as a 60mm mortar platoon when task organized.

Unified training would also greatly improve the training level of a battalion's 60mm mortar sections. Company commanders could expect trained and ready mortar sections that could operate either independently of their companies in 60mm mortar platoons or under the control of the company commanders.

This proposed 60mm mortar platoon concept offers many advantages:

- The fires of the 60mm mortars could be massed.
 - Resupply would be eased, with two sections instead of three.
 - Three mortars would deliver more steel on target.
 - With the attached HMMWV, a section would be more mobile and would carry larger supplies of ammunition and additional sustainment supplies.
 - Clearance of fires would be simplified to increase fire support responsiveness and reduce fratricide risks from indirect fire.
 - Following 60mm mortar training guidance, light infantry, airborne, or air assault infantry would have a basic SOP for 60mm mortar section operations.
 - The 60mm mortar platoon adheres to and supports U.S. Army warfighting doctrine.
 - The mortars could supply their own limited local security.
 - The flexibility of the 60mm mortar platoon concept would allow the selection of the fire support options that best suit the maneuver plan.
- The concept also offers some disadvantages:
- The HHC 81mm mortar platoon and the antitank company would give up one vehicle each to support the 60mm mortar sections.

- Depending on task organization, company commanders could sometimes lose the instantaneous responsiveness of their own dedicated mortar sections.

- New resupply methods would be needed to get 60mm mortar ammunition to the sections, instead of just to the rifle companies.

- Motivated, highly disciplined, and tactically proficient junior NCOs would be needed to lead and fight the 60mm mortar sections.

- Call-for-fire radio traffic might overwhelm one FDC net, causing delays and lost missions.

- Leaders would have to make a dedicated effort to work through problems in the new system.

- Battalion TOC would have to fight, maneuver, and communicate with two additional assets.

This proposed 60mm mortar platoon is not intended to replace the current organization of a rifle company's two-mortar sections. It is offered as a way to give the infantry battalion task force more effective organic mortar fires. The 60mm mortar platoon would make the most of mortar employment at times when conditions did not favor 60mm mortar operations at company level. The 60mm mortar platoon could be employed in operations such as airfield seizures, deliberate attack, suppression of enemy air defenses, and military operations on urban terrain.

In short, the 60mm mortar sections would have established SOPs and a basic standard of training; the task force could mass all its mortar fires; the 60mm mortars would be used to their full destructive potential in all operations; and the battalion commander would have a greater number of mortar fire support options.

Lieutenant Chadwick W. Storlie is a rifle company executive officer in the 2d Battalion, 327th Infantry, 101st Airborne Division (Air Assault). He previously led a 4.2-inch mortar platoon in the 1st Battalion, 5th Infantry in Korea. He is a 1989 ROTC graduate of Northwestern University. His article "Mortar Employment in Korea" appeared in *INFANTRY*'s May-June 1992 issue.

The Platoon Sergeant

LIEUTENANT COLONEL COLE C. KINGSEED

As a new platoon leader or company commander quickly learns, the platoon sergeant is the key leader in creating a highly professional and combat-effective force. As I prepared to assume command of a light infantry battalion, I published my concept of the tasks, conditions, and standards for all the battalion's key leaders. Much of this effort focused on the platoon sergeant, because he, along with the platoon leader, must understand and execute the battalion commander's intent two levels down. Additionally, he must always be prepared to assume the responsibilities of his platoon leader.

Some may argue that a battalion commander should concentrate on junior officer development and leave noncommissioned officer development to the battalion's command sergeant major and company first sergeants. Experience has taught me, however, that a uniform set of standards for key leaders is vital to combat readiness. Addressing the platoon sergeants on my first day of command, I outlined exactly what I would expect of them during our time together in the battalion. At the same time, I asked them to tell me what they, as the battalion's senior noncommissioned officers, expected from me as the incoming commander.

To ensure uniform standards throughout the battalion, I gave copies of these published standards to all company-level leaders. The officers and first sergeants were responsible for enforcing identical standards of performance for the platoon sergeants, thereby eliminating possibly conflicting standards at the various lev-

els of command. While I held all the platoon sergeants to identical standards, many of these senior noncommissioned officers were at different levels of professional development and experience. NCO professional development classes and performance counseling therefore became key tools in our efforts to ensure that all the platoon sergeants met at least the minimum standards of the battalion.

The platoon sergeant's general duties are easy to list: As the senior NCO of the platoon, he sets the example for military appearance and bearing; ensures that soldiers know and understand the standing operating procedures (SOPs) and field craft; and is responsible for the accountability, serviceability, and maintenance of all equipment assigned to the platoon and to the individual soldiers. He

is also responsible for the traditional "beans and bullets" logistical support, both in garrison and in the field.

A platoon sergeant's specific duties are not as well defined and may vary with individual commanders and first sergeants. My written guidance outlined several additional duties and responsibilities that I particularly wanted to emphasize at company and platoon level. A discussion of these areas may also be helpful to other battalion commanders:

Training. Although squad leaders have the primary responsibility for training their squads, senior NCOs should serve as the senior trainers for all common-task training, individual training, and Expert Infantryman's Badge (EIB) training. A platoon sergeant has a wealth of experience that squad leaders usually



lack, because he has more time in service and is familiar with other methods of conducting training.

A platoon sergeant must develop the squad leaders in leadership and, since the best leaders maintain the attitude that they are "training their replacements," also in his own duties. A platoon sergeant should make sure that the subordinate leaders adopt the same philosophy of leader development at their level and that squad leaders are training their respective team leaders for positions of increased responsibility.

Since the platoon sergeants in my battalion played such a significant role in the emplacement of crew-served weapons, I also held them responsible for training the crews. I therefore expected a platoon sergeant to be expert in the operation of every crew-served weapon assigned to his platoon. He was the unit expert on the care, cleaning, and operation of his platoon's weapon systems. Each realized that his responsibility extended to training the squad leaders to achieve similar levels of tactical and technical skill.

In this regard, a platoon sergeant has a major responsibility in certifying and training the trainers. During a platoon's training for the EIB and the Expert Field Medical Badge (EFMB), for example, the platoon sergeant should set and enforce the standards for subordinate leaders before the squad leaders train their soldiers to compete for these badges. This responsibility for training subordinate leaders extends to both tactical and garrison missions.

A platoon sergeant also has an inherent obligation to help his platoon leader become proficient at his job. This mission is important enough to be listed as one of the platoon sergeant's primary missions. This in no way negates the responsibility of the officer chain of command, but the platoon sergeant is in daily contact with the platoon leader and is in a unique position to guide and assist him. A prudent lieutenant will appreciate having a seasoned NCO assist and advise him as he learns the art of leadership.

Counseling. A platoon sergeant should counsel the squad leaders at least once a month and after each major training exercise. If these counseling sessions are to

be effective, they must be performance oriented. Unfortunately, junior leaders often view these sessions as distractions, although counseling reports have proved valuable. Since counseling sessions are often constrained by competing demands, they can easily become "check the block" payday activities. A wise company commander or first sergeant will maintain the counseling files in the company headquarters so he can inspect the reports to make sure subordinate leaders are taking their counseling responsibilities seriously. This will guarantee that the squad leaders receive the benefits of the platoon sergeant's attention and experience.

A platoon sergeant should also ensure that the squad leaders counsel every soldier once a month on his duty performance. When a soldier learns that his squad leader or platoon leader has not recommended him for promotion or for an individual award, it sometimes comes as a surprise. Periodic counseling that addresses goals, demonstrated performance, and promotion potential will eliminate this kind of confusion.

Another aspect of counseling that frequently escapes the scrutiny of small-unit leaders is the platoon sergeant's role in maintaining discipline and morale. More than any other leader, the platoon sergeant should be the platoon leader's link to the platoon's heartbeat. He should be able to take the pulse of his platoon and know when a potential problem is developing. If he notices that there are problems or that the soldiers are discontented, the platoon sergeant should lend a willing ear or serve as the spokesman for their complaints. Likewise, if a soldier deserves counseling or disciplinary action, the platoon sergeant should take the lead.

Inspections. The platoon sergeant plays a critical role in the inspection process. Part of a leader's job is to take care of his soldiers, and inspections are the best quality-assurance tool with which to evaluate a soldier's physical and materiel preparedness. He is in an excellent position to observe deficiencies and to demand immediate corrective action.

Unfortunately, conducting inspections is becoming a lost art in many com-

mands. Platoon sergeants should inspect their platoons daily in ranks, their living and work areas, and their equipment. Although the squad leaders can inspect their own squads, the platoon sergeant must make sure the inspections are conducted. Moreover, by inspecting the soldiers along with a squad leader, the platoon sergeant sets the example of how to conduct the inspection and also demonstrates that he cares enough for the soldiers to make sure they are meeting unit standards.

The platoon's senior noncommissioned officer also conducts inspections in a tactical environment. The best platoon sergeant is the one who spot-checks individual and crew-served weapons, maintains high standards in field sanitation, and sees that his soldiers have all the ammunition and equipment they need to complete a mission. In a sense, the platoon sergeant is the one who maintains the platoon's combat power in the field.

Accountability and Responsibility. It is easy to say that a leader is responsible for all his unit does or fails to do, but the platoon sergeant has a distinct role in accountability and responsibility. Although squad leaders should be held personally responsible and accountable for their squads' individual weapons, ammunition, and personal equipment, the platoon sergeant should be held personally accountable and responsible for the maintenance of crew-served weapons and ammunition.

In our battalion it was no secret that my first stop on every inspection tour in the field was the crew-served weapon positions, generally the M60 machinegun. Each platoon sergeant would escort me to his platoon's machinegun position and describe his reasons for recommending it to the platoon leader and the company commander, what the fields of fire were, and how the position was integrated into the overall platoon defense. In order to do these things, it was necessary for the platoon sergeant to have stood in the fighting position to observe the fields of fire from the gunner's perspective. The platoon sergeants soon developed standards and correct range cards for their entire platoons, which contributed to continuity. In so doing they were educating

not only the machinegun crews but also the platoon leaders and the company commander.

Maintaining the ammunition for a crew-served weapon is just as important as maintaining the weapon itself. If the platoon sergeant does not teach them that such practices are unacceptable, soldiers will wrap M60 ammunition around their waists or across their chests where it will accumulate dirt and debris. Obviously, automatic and semiautomatic weapons that do not fire are useless. Carelessness in maintaining weapons and ammunition to acceptable standards can cause undue loss of life.

Leader Development. Just as the platoon sergeant is responsible for ensuring that the squad leaders learn the skills they will need to perform at the next higher level, he must also be prepared to assume the responsibilities of the platoon leader or the first sergeant. Leader development must be a command priority. On the

modern battlefield, leaders who are skilled only in their current positions can be useless when casualties or other circumstances call for them to function at the next higher level of command.

Senior noncommissioned officers must set the example in attending such specialty schools as the Air Assault School, the Ranger indoctrination program, and the Ranger Course. Additionally, a platoon sergeant should compete for and earn the Expert Infantryman's Badge and other badges of individual excellence. (I must confess that I met some resistance here, but soldiers have a right to expect the most capable leaders—commissioned and noncommissioned officers alike.)

These are only a few of the duties and responsibilities I expected of the battalion's senior noncommissioned officers. To prevent any misunderstanding of my expectations among the platoon sergeants, I met with them quarterly to discuss the standards of performance. These

meetings were probably more beneficial to me than to them, because they could offer their unfiltered advice and recommendations on how to improve training within the battalion. The sessions also gave us an opportunity to discuss particular strengths and weaknesses we had observed in training during the preceding quarter.

Although our conversations were candid and open, I never relaxed my standards. I welcomed any recommendation that would improve the lot of the soldier and increase the combat readiness of the battalion, but I would not compromise on soldier welfare or unit readiness. Soldiers deserve nothing less.

Lieutenant Colonel Cole C. Kingsseed commanded the 4th Battalion, 87th Infantry, 25th Infantry Division and is now assigned to the faculty at the United States Military Academy. He is a 1971 ROTC graduate of the University of Dayton and holds a doctorate from Ohio State University.

Heavy Task Force Medical Platoon

Maintaining Momentum in Offensive Operations

LIEUTENANT MARK A. CHATTERJI

One of the defining characteristics of a heavy combat team (especially one equipped with Abrams tanks and Bradley fighting vehicles) is its ability to exploit battlefield momentum. Combat service support (CSS) elements, including medical, must facilitate this momentum, and not impede it.

How should casualty evacuation be planned and executed so it will not hamper friendly operations? At what point do the internal (unit-directed) requirements of evacuation affect the commander's forward progress? The sustainment of

battlefield momentum thus forms the framework for discussing health service support in offensive operations.

I would like to share some lessons learned and problems identified during a task force rotation to the National Training Center (NTC). The balanced infantry-armor task force consisted of a headquarters company, four company teams (A, B, C, and D), and an antiarmor company (Company E).

The task force began field operations with live-fire exercises, then transitioned to force-on-force operations. During

these fights, the medical platoon's basic organization was one in which each company team received an M113A2 tracked ambulance in direct support. The remaining four M113A2s were used as area support vehicles under the direction of the medical platoon leader. If Company E was fighting "pure," one of the area support ambulances could be attached to it for direct support. The treatment squad was split into two teams, each moving in an M577. The M577s habitually operated in a "one up, one back" formation. The other medical platoon vehicles (all

soft-skinned) were grouped with the rear M577.

The most significant lessons concerned the best way to sustain momentum in terms of battlefield positioning and the allocation of medical assets. The best placement of the forward treatment team (Team A) in the attack seemed to be 700 to 800 meters from the forward line of own troops (FLOT). Although the final decision on positioning must always be based upon an analysis of mission, enemy, terrain, troops, and time (METT-T), this close-in positioning allows for the timely evacuation of critically wounded soldiers (in MILES terminology, the urgent patient who dies of his wounds in one hour if not treated).

Obviously, as the task force medical assets move closer to the FLOT, they are at greater risk of being destroyed by direct and indirect fire. The NTC battle results are instructive on this point: In all the attacks, Team A attempted to remain no more than 800 meters from the FLOT. Although the team and its M577 was destroyed by indirect fire one time (out of six), during the rest of the operations, the gains in the number of critical casualties saved more than justified the increased risk of close-in positioning.

Treatment Team B, positioned three to four kilometers back from Team A, entered the battle through a relief-in-place technique. When Team A reached an active casualty collection point, it would halt, set up a hasty treatment area, and radio Team B to come forward. Thus, while casualties were flowing into Team A's area, Team B was moving forward to take over the management of the collection point. When Team B reached Team A, its M577 remained fully loaded with its engine running, and the two treatment teams simply swapped vehicles. While Team B continued the medical care already under way at the established treatment area, Team A moved forward again. The soft-skinned vehicles remained with Team B. When Team B finished treatment, the soldiers packed up and began moving forward, coordinating with Team A to reestablish an interval of three to four kilometers. The relief-in-place technique, which allowed Team A

to stay within striking distance of the front with few interruptions, thus offers the best solution to the problem of sustaining momentum.

The second lesson learned concerns the relationship between sustaining momentum and allocating medical resources on the battlefield. Both in doctrine and in practice, there is a habitual relationship between each company team and its supporting M113A2 ambulance. In garrison, the relationship between the aidman (ambulance track commander) and the rifle or armor company first sergeant is the driving force behind routine medical support. Although this relationship should be fostered, situations may arise during tactical operations in which it is appropriate to break it temporarily and reallocate the tracked ambulances to an area support role. NTC experience indicates that this may be appropriate more often than might be expected. Again, from the results of the NTC attacks, Team A, with its three or four attached area support ambulances, found and evacuated almost 70 percent of all the critical casualties while the ambulances in direct support roles evacuated the remaining 30 percent.

Medical assets must be allocated according to METT-T analysis; any time an ambulance can be better used in an aggressive area support role than in direct support of a company team that forms the attack reserve, it must be re-allocated. This is a crucial point that must be understood by the company team as well as the medical platoon; otherwise problems will arise when it is time for the company team to reallocate its medics and shift them around on the battlefield.

During the task force's NTC rotation, the issue of patient holding capabilities topped the list of impediments to momentum. During the battles, the medical platoon's two M35A2 trucks were used to hold patients who had received the required initial treatment from the battalion surgeon or the physician's assistant pending their evacuation. The volume of patients the battles generated quickly exceeded the trucks' carrying capabilities. Doctrinally, the patient load is supposed to be relieved through evacuation to the next level of medical support—in this case, the forward support medical

company (FSMC). In practice, however, problems with coordination and the rear forces' ability to keep pace with the battle almost always prevent timely evacuation to the rear.

Indeed, rearward evacuation typifies the problem medical doctrine faces in efforts to sustain momentum. According to doctrine, casualties move from the battalion aid station back to an ambulance exchange point (AXP) operated by FSMC, but this idea seems to be based on a static view of the battlefield. It does not capture the dynamic nature of the offensive in which the front can constantly move forward. To be effective in the attack, medical support must move in the same direction as the FLOT, not in the opposite direction. If FSMC operations in the offense are to sustain the momentum, a worthwhile technique to consider is simply designating Team B's treatment area the AXP and effecting a relief-in-place between this team and the ambulances of the FSMC.

The existing procedures for decontaminating and treating chemical casualties are also unrealistic when viewed in the framework of sustaining momentum. A battalion medical platoon cannot establish and operate a patient decontamination site (PDS) and also continue to keep pace with the attack. PDS procedures simply require too much manpower and time. By doctrine, the manpower for a PDS is supposed to come from the supported unit. When there are more than a few casualties, however, either the decontamination team (operating in MOPP Level 4 and full-length butyl rubber aprons) must rest between cycles or the supported units must send more manpower. Because of the commanders' inability or unwillingness to spare these extra troops, the current decontamination and treatment procedures for chemical casualties are unworkable.

Internally, a conflict also exists in unit decontamination capabilities. Both vehicles and non-injured soldiers can undergo hasty decontamination at unit level. For a deliberate decontamination of vehicles, a brigade-level asset, the decontamination platoon, must be used. Yet injured and contaminated soldiers, who also require deliberate decontamination,

are still expected to receive it at unit level. The task force medical platoon is being given a job it cannot realistically support without augmentation.

Once the decontamination site has been established, it is too cumbersome to break, dismantle, and move forward rapidly enough to continue being effective. As the FLOT continues to advance, the lines of evacuation lengthen, and this distance devours the time available for decontaminating a critical casualty. Moreover, even after the casualty has been decontaminated, he still has to be treated.

One technique for dealing with this problem is to place a "clean" treatment facility next to the decontamination station. If the treatment assets are to keep

up with the fight, however, they must be able to continue moving forward, and linking such a treatment facility to the decontamination site simply removes it from the battle. Given these issues, an alternative to the current situation must be devised if the medical platoon is to remain effective on both the integrated battlefield and the conventional battlefield.

Another point needs to be made: Our unit was the last active-duty heavy task force to undergo an NTC rotation with M113-equipped mechanized infantry. The medical evacuation system therefore went through the rotation with the same vehicles as the maneuver forces. The next time the task force fights, however, the combat units will be equipped with Abrams tanks and Bradley fighting ve-

hicles while the medical platoon will still have M113A2s, leaving a mobility gap between the combat and the combat service support elements. It is therefore imperative that the tactics, techniques, and procedures of the task force medical platoon be refined to narrow, not widen, this gap. The alternative is a heavy task force medical support system that can meet a critical need on the modern battlefield—the need to facilitate, not impede, the momentum of friendly operations.

Lieutenant Mark A. Chatterji recently completed an assignment as medical platoon leader in the 1st Battalion, 8th Infantry at Fort Carson and is now assigned to the division's Public Affairs Office. He is a 1991 ROTC graduate of Georgetown University.

The Real Rules of Discipline Of Major Robert Rogers and the Rangers

MAJOR WILLIAM H. BURGESS III

There is scarcely a soldier in the Army today who has not been exposed, to one degree or another, to the 19 "standing orders of Rogers' Rangers." These rules—which include such advice as "Don't forget nothing," "Don't never take a chance you don't have to," and "Don't sit down to eat without posting sentries"—have been attributed to Major Robert Rogers, leader of the original independent companies of New England rangers of the French and Indian War in North America.

The orders, dated variously 1756 and 1759, have been reproduced in large quantities both by the Army and by commercial presses (most prominently in SH 21-76, *Ranger Handbook*) and distributed to thousands of soldiers around the world. As a result, for decades U.S. sol-

diers have been struck by the straightforward simplicity and the rough-hewn tone and grammar of what have become some of the best-known thoughts on light infantry in our military community.

As a projection of these orders, Major Rogers himself has come to represent the original American yeoman-hero, physically strong, possessed of plain common sense (instead of, and superior to, formal education), unencumbered by social refinements, brave, cunning, and ultimately triumphant over all enemies.

The truth is, however, that both this image of Rogers and the 19 "standing orders" themselves are fabrications. The orders attributed to Rogers are in fact a mid-20th century corruption of an earlier fiction. They were drawn, almost verbatim, from Kenneth Roberts' 1936 nov-

el *Northwest Passage* (Ballentine Books, 1991), which was set among Rogers' Rangers during the French and Indian Wars. The orders are, specifically, a paraphrasing of a conversation between the fictitious characters Sergeant McNott and Langdon Towne, in which McNott, a bumpkin-like character, tells Towne what he needs to know about the Rangers (pages 87-88).

In about 1960, almost a quarter-century after Roberts penned this conversation, a captain assigned as a doctrine writer at the Infantry School lifted it out of context, paraphrased it, attributed it to Rogers, and included it in the early version of Field Manual 21-50, *Ranger Training and Ranger Operations*. There, in an appendix on Ranger history, the purported orders embedded themselves

in Army doctrine where they have remained substantially unchallenged until now.

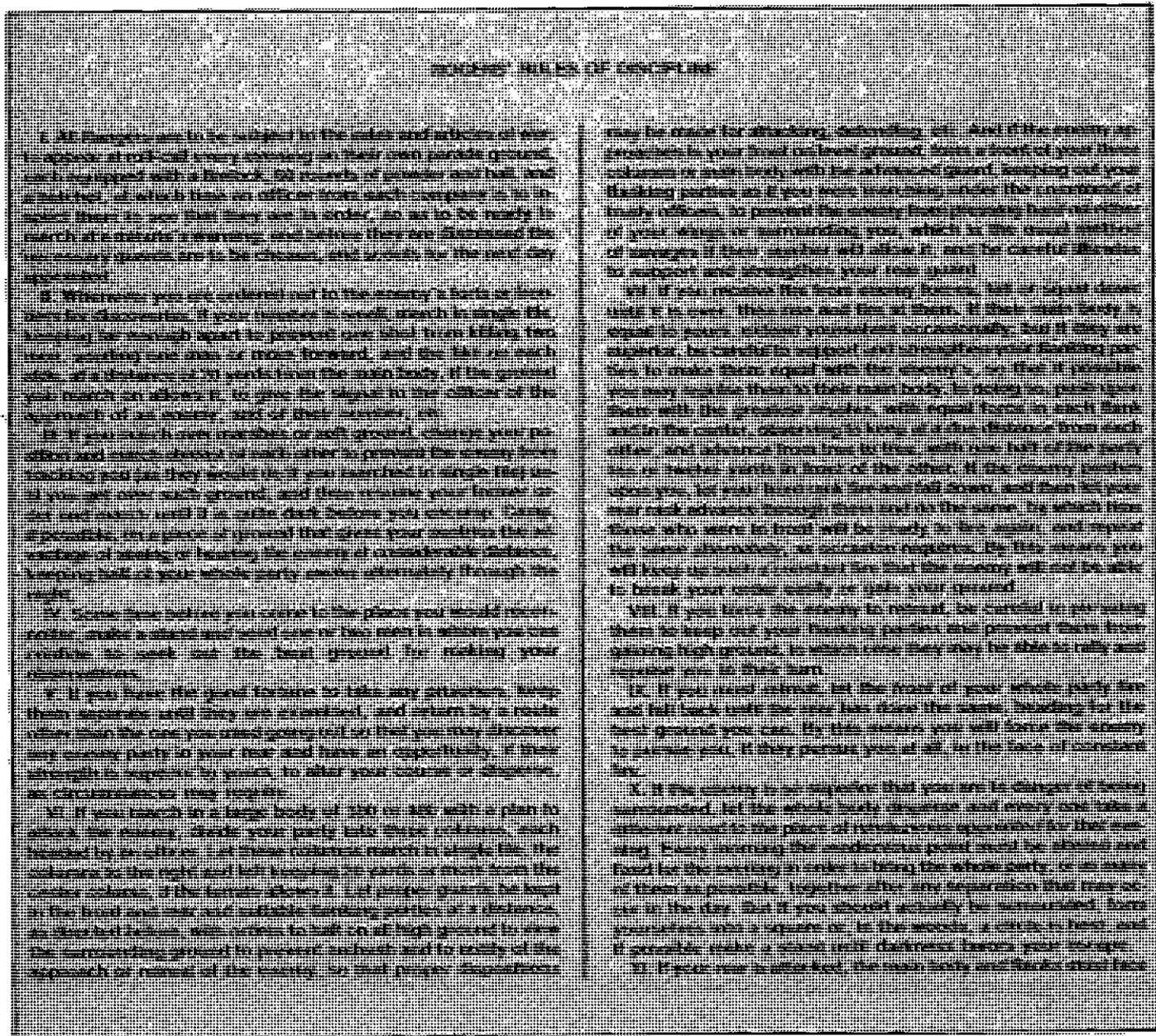
As for Rogers, although he was of humble origins, he was actually an educated and literate man for his time and place. He routinely corresponded with the most senior military and political leaders of his day, and his insights into combat on the North American frontier were based far more on direct observation and study in an operational environment than on some innate superhuman instinct.

Sometime between 22 April and 17 December 1757—at the direction of Lord

Loudoun, who then commanded British and American forces in the Northeast—Rogers did, in fact, prepare and note in his personal journal 28 rules or a “plan of discipline...to be observed in the Ranging service.” These rules were intended for use in training a company of volunteer Rangers then mustered at Fort Ticonderoga on the frontier, in what is now upstate New York. In London in 1765, Rogers published his French and Indian War *Journals*, which included the rules of discipline.

In late 1961 or 1962, these rules of discipline, and the questionable nature of the popular “Rogers’ standing orders,”

came to the attention of the Infantry School staff when the recently reprinted *Journals of Major Robert Rogers* (published by Corinth Books, Inc., 1961) arrived and was read. Some of the cadre members tried to set the record straight. Instructors in the Fort Benning phase of the Ranger Course, for example, began to promote the authentic Rogers “rules of discipline.” A copy was printed and made into a poster, which was given to all Ranger Course graduates in the early 1960s. Nevertheless, for reasons not altogether clear, the more popular rules were never purged from the literature, and they eventually superseded the



about to the right or left, as required, and never endeavor to oppose the enemy as directed earlier. The same method may be observed if directed to either of your flanks, by which means you will always have a good guard of one of your flank guards.

XXI. If you determine to rely upon a retreat to water to make a fresh stand against the enemy, by all means try to do it on the highest ground you can find upon which will give you the advantage and enable you to retreat in safety.

XXII. In general, when pursued upon by the enemy, reserve your fire until they approach very near, which will keep them from the greater distance and observation and give you an opportunity to rush upon them with your halberds and bayonets to greater advantage.

XXIII. When you march at night, as your marches so they will not be subject to the same body with marching, particular security and silence being often of the most importance to these cases. Each company therefore, should consist of six men, half of whose arms be constantly alert, and when ordered by their leaders, if should be without noise to march forward on duty not to lose anything that concerns them, they are not to speak. One of them is to retreat silently and upon the circumstances of the night proper disposition may be made, all companies together should be fixed in a like manner.

XXIV. At first light, awake your whole detachment. This is the time when the manager chooses to get upon their quarters, and you should be ready to receive them.

XXV. If the enemy is discovered by your detachments in the morning, and if their numbers are superior to yours, and a victory doubtful, you should not attack them until the evening, then they will see more your numbers and if you are repulsed your retreat will be aided by the darkness of the night.

XXVI. Before you leave your encampment, send out your parties to search around it to see if there are any signs of an enemy force that may have been near you during the night.

XXVII. When you start for home, choose some spring or rivulet if you can, and dispose your party so that to be surprised, you may have a good guard of a mile distance, and let a small party watch the path you went coming in, to know the enemy is following.

XXVIII. If you have to cross rivers or great streams, send the small party as much as possible, to know the stream has decreased there and is likely crossing over.

XXIX. If you have to pass or retreat, keep all your companies near the edge of the water, so that in case of an ambush or attack from the enemy, your retreat will not be cut off.

XXX. If the enemy forces should give chase, make double use of your powder to give more smoke and form an ambush, those who receive them will give them the first fire.

XXXI. When you return from a skirmish and come near the water, send the small party and yourself to the stream, they will be ordered your feet but not to drink, to refresh your bodies, but not to eat.

XXXII. When you pursue any party that has been near a bridge or the approach to it, do not directly to their front, but you be discovered by their rear guards who, if such a party, would be most shot. But proceed by a different route, to separate and meet near some other place, to be in a better posture than when you were first engaged.

XXXIII. If you are to retreat in company, or other way, by water, choose the narrowest part of the bank of your detachment, so you will then have the water right before you, to give encouragement to any company who are told to other parts, that understand you in the time of their.

XXXIV. In making a running water, send one boat or canoe next to the bank near the fire, and that will work for the great benefit, if a present disposition can be made you will be able to take any other in any emergency.

XXXV. A good rule was to march back to the water, as the narrowest stream, from the stream, a party of which you may find, with the loss of the number that landed there, and whether you can attack them or not.

XXXVI. If you find the enemy advanced near the bank of a river or lake that you want they will be by to cross the river, make it when attacked, make a retirement of your party on the opposite shore to receive them, with the intention, and not to leave them, having your backs to the water.

XXXVII. If your forces are in a narrow stream, or a narrow channel, behind through some flow, send the small party, your boats, at some distance and distance from the bank, by a narrow stream, they will be in the middle of the stream, and the small party, when you may pass, attack, and when done so, let them pass, and the small party, not to be surprised, however, so that you may not be discovered at a great distance by the enemy on the bank and stream, it is better to help with your boats and party concealed at the water, and not to be seen, and to be able to retreat, if you are surprised, whether you are to be surprised, or not, and your party and detachments, in order to preserve the water in the dark, and therefore, a small party, but every man is to be in case of any accident, that may be made you.

authentic work of Rogers. While the errant version is essentially a code of conduct with rules for patrolling, Rogers' authentic rules of discipline are a comprehensive and balanced discourse on skirmishing and scouting. These rules, with some adjustments for technological changes in weaponry, are still relevant to light infantry today, particularly to rural counterinsurgency operations. While the popular rules may be quaint and entertaining, the authentic work of Rogers has a brilliance that is undiminished by time. (The version printed here has been edited only as needed to clarify some of the 18th century language.)

It was Rogers who made the New England rangers famous throughout the world, and his "rules" constituted the first military field manual written in North America. They also stand as an enduring example of excellence in military thinking that is worthy of continued study and emulation. This is not to say that all those who have believed in the less accurate version of Rogers' rules should be criticized for promoting the rules. Rather, they deserve praise for their intent of commemorating the military genius and the continuing relevance of Major Robert Rogers. The loss of the authentic rules—which were masked for 30 years by the less ac-

curate version—simply underscores the need for an appreciation of the history and art of American land warfare. Hopefully, Rogers' authentic rules of discipline will now come to occupy their rightful place among scholars, historians, and the soldiers of the line.

Major William H. Burgess III is a Special Forces officer assigned to U.S. Special Operations Command at MacDill Air Force Base, Florida. He previously served in a variety of command and staff positions in Infantry, Military intelligence, and Special Forces. He commanded a Special Forces company in southwest Asia during Operation DESERT STORM. He holds a law degree from Washington College of Law, The American University.



FIFTY YEARS AGO IN WORLD WAR II JULY-AUGUST 1943

By July of 1943, America and her Allies had entered the initiative and were increasing the pressure on the Axis powers in all theaters of operations. In the Mediterranean, U.S. forces had easily liberated North Africa as a springboard for the capture of Sicily, while U.S. Army, Navy, and Marine forces swept the Japanese from islands they had captured less than two years earlier. The Marines were no less effective, they stalled and ultimately routed two German Army Groups and began the laborious task of liberating their homeland. Through it all, the heroism of individual soldiers served as inspiration to others engaged in the dirty, often painful, business of war.

These and other highlights of World War II are excerpted from *Read Handings: A Month of the Stars and Stripes*, Volume II, available for \$50.00 from *Nation's Publishing, Inc.*, P.O. Box 537, Glenview, PA 17039.

1-3 July - Operation Island Hopper begins with the capture of the Solomon Islands, the U.S. Navy's Amphibious Command program to take back the Pacific.

3-7 July - The German Army launches its offensive against the French island of Corsica, with the 1st Army Group and the 1st Air Army. The U.S. Army's 1st Air Army is ordered to defend the island. The initial success of the offensive is checked by the U.S. Army's 1st Air Army.

8 July - American B-24 bombers based in Guadalcanal attack Japanese positions on Wake Island in the first attack by land-based planes since the capture of Wake in December 1941. In North Africa, the 1st Air Army's 1st Air Army is ordered to defend the island.

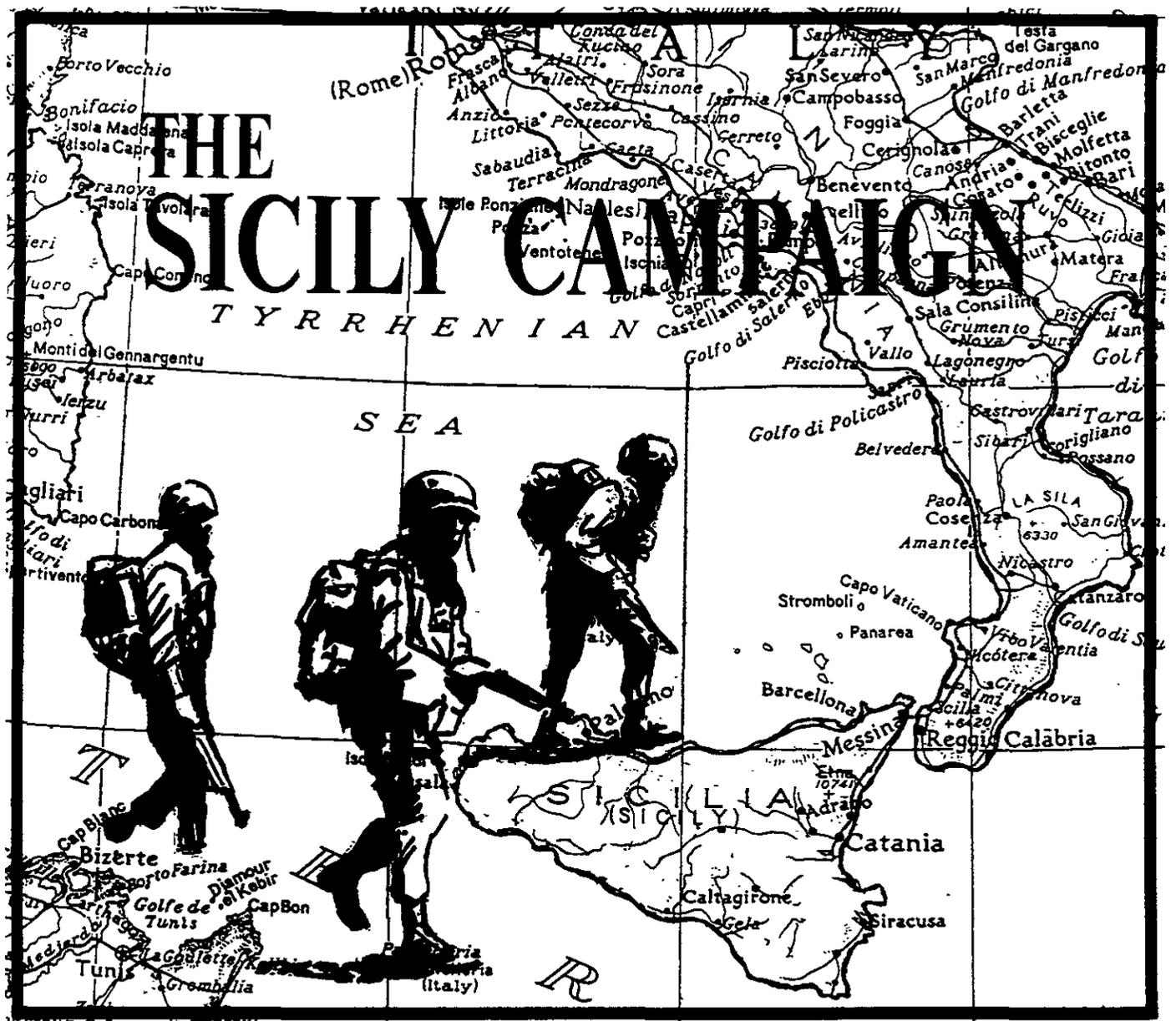
9-11 July - The 1st Air Army's 1st Air Army is ordered to defend the island. The 1st Air Army's 1st Air Army is ordered to defend the island. The 1st Air Army's 1st Air Army is ordered to defend the island.

12 July - The 1st Air Army's 1st Air Army is ordered to defend the island. The 1st Air Army's 1st Air Army is ordered to defend the island. The 1st Air Army's 1st Air Army is ordered to defend the island.

13 July - In the Solomon Islands, the U.S. 1st Air Army is ordered to defend the island. The 1st Air Army's 1st Air Army is ordered to defend the island. The 1st Air Army's 1st Air Army is ordered to defend the island.

14 August - During the continued advance across Sicily, the U.S. 1st Air Army is ordered to defend the island. The 1st Air Army's 1st Air Army is ordered to defend the island. The 1st Air Army's 1st Air Army is ordered to defend the island.

15 August - The U.S. 1st Air Army is ordered to defend the island. The 1st Air Army's 1st Air Army is ordered to defend the island. The 1st Air Army's 1st Air Army is ordered to defend the island.



RECOLLECTIONS OF AN INFANTRY COMPANY COMMANDER

MAJOR GENERAL ALBERT H. SMITH, JR., U.S. ARMY RETIRED

AUTHOR'S NOTE: In the 1st Infantry Division—the “Big Red One”—our ultimate goal, of course, was to win the war against Nazi Germany and then go home. We were dedicated to “doing it right”—accomplishing every mission as soon as we could with the fewest possible casualties. By mid-1943, 1st Infantry Division soldiers were experienced, professional warriors who could be counted on to get the job done.

My remembrances recorded in this two-part article begin

near Oran, Algeria, during late May 1943 and conclude with the successful end of the Sicily campaign in late August. I extend special thanks to Albert N. Garland, co-author of the U.S. Army’s official history of the Sicily campaign, for helping me put these remembrances into an accurate historical framework.

Finally, because they played important roles in our Sicily victory, I have included anecdotal recollections of two great 16th Infantry Regiment combat leaders—Major General

Charles T. Horner, Jr. (now deceased), then a major who led the 3d Battalion, 16th Infantry, and Colonel (Retired) Bryce F. Denno, then executive officer and later commander of the 2d Battalion.

To most Americans today, the capture of the island of Sicily by a combined U.S.-British force in mid-1943 is one of the forgotten campaigns of World War II. Even within the U.S. Army, it seems the only people who remember it at all are those in the airborne and Ranger communities, and theirs is but a part of a much larger story.

The battle has not been forgotten by those of us from the 1st Infantry Division who went into Sicily on 10 July 1943 and who survived the next 38 days to fight again in Normandy in June 1944.

I had been a member of the 16th Infantry (one of the division's three infantry regiments, the others being the 18th and 26th) since July 1940. I had commanded Headquarters Company, 1st Battalion, 16th Infantry from June 1942 through the invasion of North Africa (Operation TORCH) and the Tunisian campaign before being wounded during the battle of El Guettar in late March 1943. (The medics evacuated me—by plane, train, and ambulance—all the way back to the 12th General Hospital in Oran, Algeria.) Recovered and returned to full duty in mid-May 1943, I was given command of Company L, 3d Battalion, 16th Infantry.

It was not a happy division that I rejoined: The soldiers' morale was way down, and the division had acquired a bad reputation for brawling "in towns from Bizerte to Oran," as General Omar Bradley later wrote in his book *A General's Life* (Simon and Schuster, 1983).

Their actions should not have surprised anyone, however. First, the men had been given no time to relax between the end of the fighting in Tunisia and the beginning of a strenuous training program to get them ready for Sicily. Instead, they had been sentenced to spend time in one dirty, dusty training camp after another for the next two months.

On top of that, we in the 1st Division had somehow gotten it into our heads that the division would be sent back to the United States when the fighting in North Africa ended. Our soldiers were understandably upset when they learned they would lead the assault into Sicily.

Originally, in fact, the 1st Division had not been scheduled for the Sicily operation. Lieutenant General Omar Bradley (II Corps commander) was to lead two of the three assault forces—the newly arrived 36th Infantry Division and the 45th Infantry Division, which was coming directly from the United States with only a short stop in North Africa before going into Sicily. But he had refused to accept two untried and untested divisions for this major amphibious operation. He had insisted that he needed the 1st Division to bolster his chances of succeeding. General Dwight Eisenhower, the senior U.S. commander in the theater and the overall commander for the Sicily operation, had agreed to substitute the 1st Division for the 36th.

For that matter, Bradley and his II Corps headquarters had not originally been scheduled to participate either. Major

General Ernest J. Dawley's VI Corps headquarters, also newly arrived in North Africa, had been tagged for it. But Lieutenant General George S. Patton, Jr., the U.S. Seventh Army commander, did not want to go into Sicily with an untried corps headquarters. He knew Bradley and the II Corps, and Eisenhower had agreed to this substitution.

As this high-level drama played out, I joined Company L on 20 May 1943 in the 3d Battalion's austere tent camp near Arzew, Algeria. It was immediately obvious that I had to do something, and quickly, to improve the soldiers' morale. I brought my senior NCOs together to talk about the problem, and they recommended we begin a simple, if unauthorized, rest and recuperation (R&R) program. They wanted me to excuse one platoon of soldiers from training each day and provide them with truck transportation for the round trip into Oran and back to camp. The men could spend a full day there, forgetting about the war. My first sergeant and platoon sergeants guaranteed there would be no bad-conduct reports and our soldiers would be clear of Oran each day before the 1700 curfew imposed by the Mediterranean Base Section.

It worked. The program was entirely successful, and the company's morale and spirit went way up. No new commander ever had a better opportunity to help his men and also gain their support.

A short time later we moved to the Fifth Army Invasion Training Center at St. Leu, Algeria, where we were trained by the 36th Infantry Division in landings and movements inland, which culminated in our conducting live fire attacks on fortified defensive positions. Although we agreed we needed this kind of refresher training, we did think it strange that battle-tested veterans were being taught how to fight by units that had never heard a shot fired in anger.

Happily, we moved on to Algiers the second week in June. Here, we continued small unit training, drew the necessary supplies for the forthcoming operation, and prepared our vehicles for the invasion. It was also here that I encountered two rather serious disciplinary problems.

In the first one, a young private decided he would prefer a court martial to combat in Sicily; he also told his squad leader, his platoon sergeant, and his first sergeant he would not go on kitchen duty as directed. When these NCOs failed to persuade him to do otherwise, they brought the problem to my attention.

Once again I called my senior NCOs together to talk over this breach of discipline. We concluded that every man assigned to the company *would* go into Sicily unless an individual member was declared physically unfit for combat by the battalion surgeon. We felt that if we allowed even one to get out of the invasion, we would be making a big mistake. We therefore placed the private under a 24-hour armed guard and confined him to the immediate vicinity of his pup tent. We told him he could return to regular duty status whenever he decided to report for kitchen duty. He continued refusing to do this until after we had embarked on an LCI (landing craft, infantry) and headed for Sicily. He went on to do well in the fighting and later thanked me for saving his honor and his reputation.

The other case involved a technical sergeant who was one of the best infantry platoon sergeants in the division. Because almost everyone wanted to go into Algiers, only company commanders could authorize departures from their bivouac areas. We had a jeep and trailer on the road almost every day picking up supplies in the city, and this NCO was in charge of one of those supply runs.

Just before evening chow on a day he had gone into town, two military police jeeps escorted him, his driver, and a half-dozen of my soldiers to my headquarters tent. It seemed that, instead of picking up rations as he was supposed to do, he had hosted an uproarious party through the streets of Algiers, including a trip past General Eisenhower's headquarters. By the time the military police finally stopped this group of partygoers, there were 24 individuals (U.S. soldiers, French civilians, and Arab merchants) plus much wine in the company's jeep and trailer. Obviously, the group had enjoyed a great time "on the town."

I blistered the six junior soldiers with oral reprimands. Since the NCO was responsible for what had happened, however, I reduced him to the rank of private first class (PFC). He accepted this punishment without protest, asking only what his job would be during the invasion. I replied, "Unless your platoon leader recommends otherwise, you will continue as platoon sergeant without stripes." He did a great job during the invasion and regained his chevrons a week or so after we landed.

On 26 June our battalion sailed from Algeria aboard five

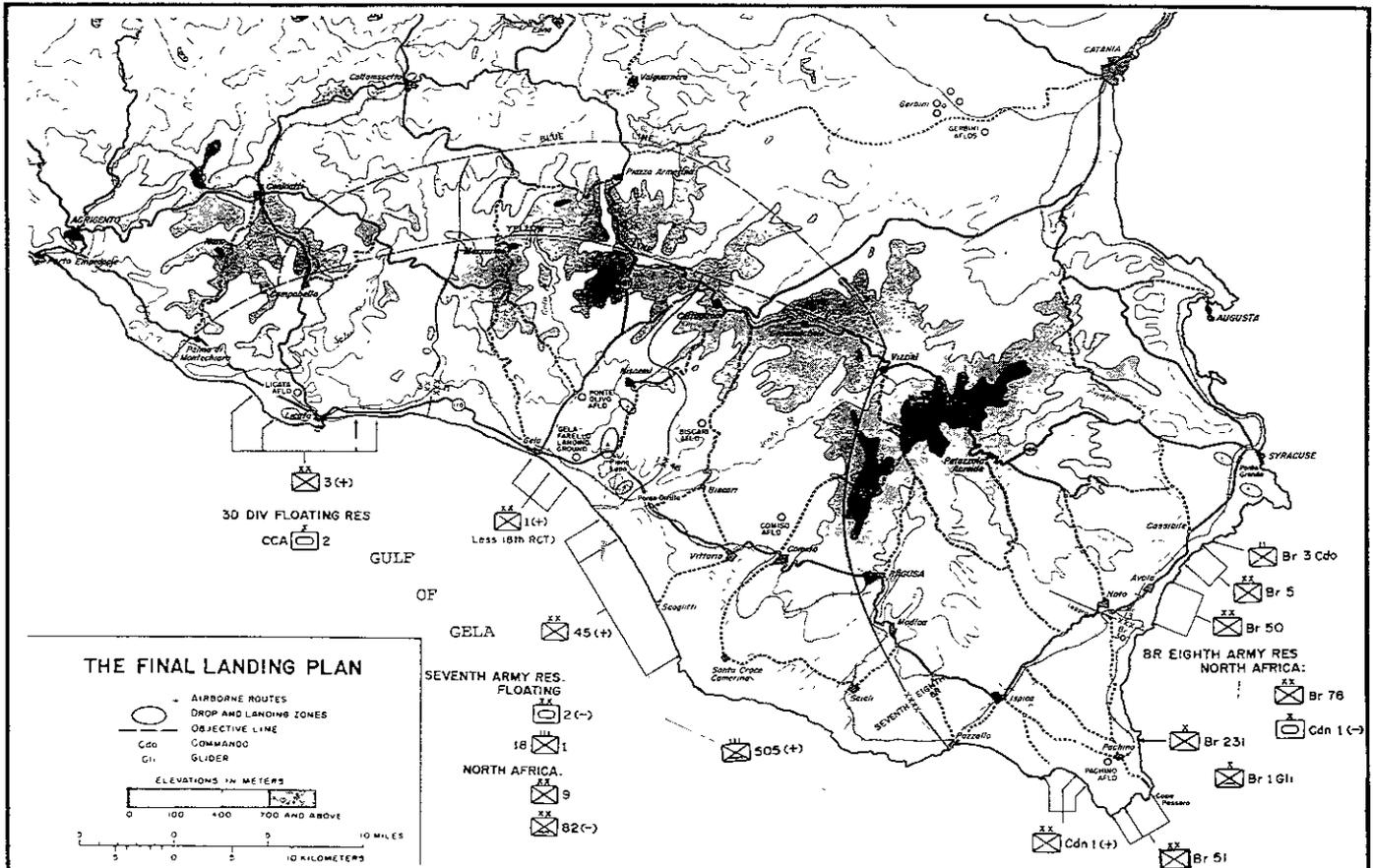
LCIs bound for Bizerte, where we disembarked for a short stay in a miserable forward assembly area. An LCI is not a pleasure craft by any measurement, but ours certainly looked good to us when we got back on board on 5 July.

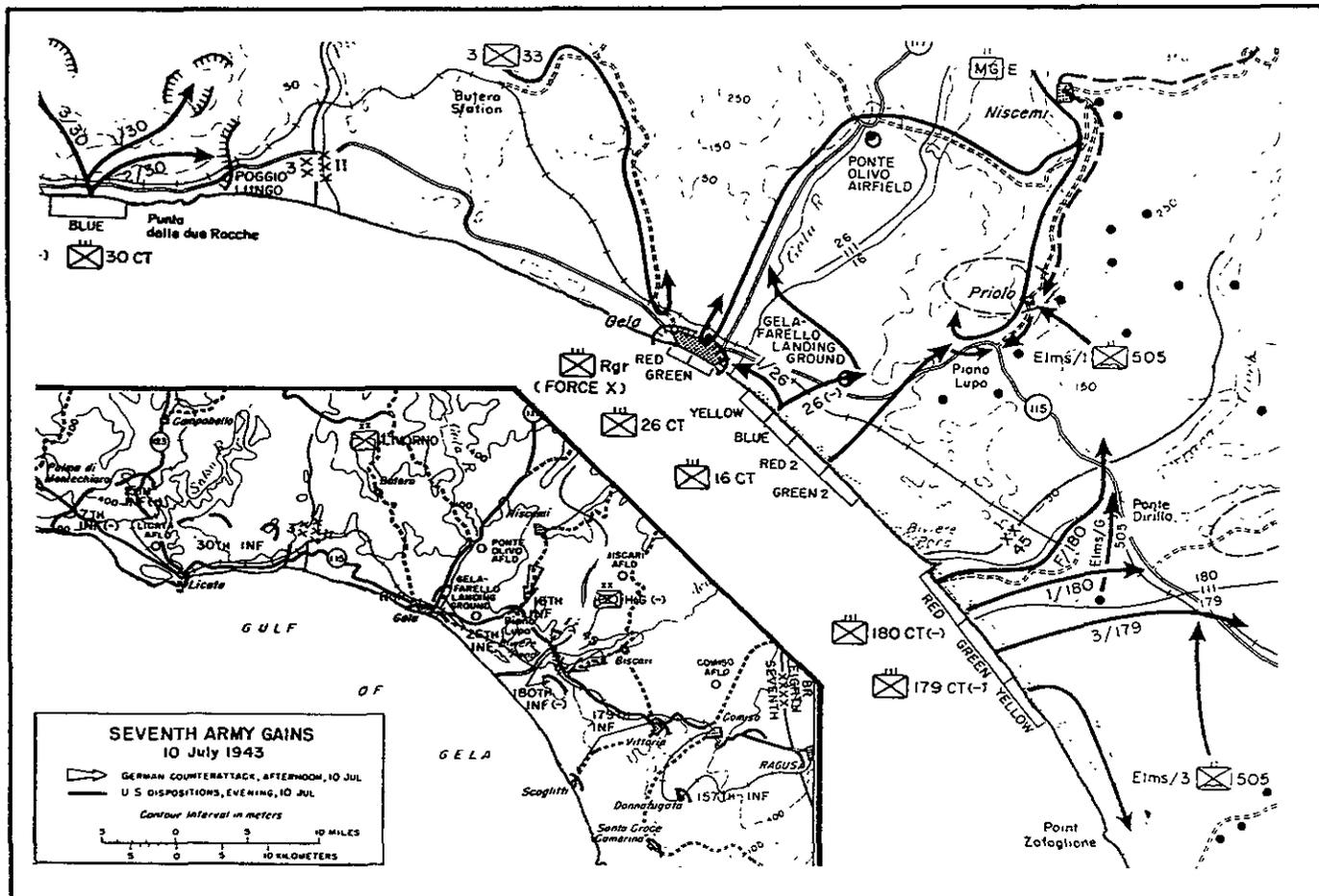
Better yet, we soon moved outside Bizerte harbor and anchored in a calm, beautifully blue Mediterranean Sea. We permitted those soldiers who could swim to do so while the others took advantage of the good weather and relaxed on deck. This would be their last R&R until the fighting stopped in mid-August. We were excited and our spirits were high as the invasion armada formed around us.

During this short period of relaxation, we were able to review certain aspects of the coming campaign and our specific role in it.

Sicily, shaped like a great triangle, is roughly the size of the state of Vermont. Its coast has numerous sand-and-shingle beaches that range in length from less than 100 yards to several miles. A narrow coastal plain backs the beaches in the northwestern corner of the island, then widens somewhat midway along the southwestern coast opposite the Gulf of Gela (our destination). All of the island's airfields were located on the coastal plains, none more than 15 miles inland. In the northeastern corner stand the island's highest and most rugged mountains, with many peaks from 4,500 to 5,400 feet, and with massive Mount Etna, 10,000 feet high and 20 miles in diameter at its base.

Throughout the island, the better and more important roads were near the coast. In the interior, the roads were poorly sur-





Map 2

faced and narrow, with sharp curves and steep grades. Most towns and cities were built on hilltops for the sake of defense, with steep, winding approaches and narrow streets. The major ports were Messina near the northeastern tip, Catania and Syracuse on the eastern side, and Palermo near the western end.

The final Allied plan called for the entire assault force to be directed at the southeast peninsula (see Map 1). General Patton's Seventh Army was to land along the beaches of the Gulf of Gela. General Bernard Montgomery's British Eighth Army would extend the assault around the Pachino peninsula and part-way up the east coast. The overall ground commander was British General Harold Alexander, who simultaneously served as General Eisenhower's deputy commander-in-chief.

(As I discovered later, Alexander considered the U.S. Seventh Army landings a secondary effort at best. In his eyes, the British Eighth Army was to make the main effort and quickly drive up the east coast to grab Messina, thereby cutting off the enemy's main escape route to the Italian mainland. In short, Alexander expected Patton to protect Montgomery's left flank and rear while the latter drove his British troops to the main strategic objective in Sicily.)

To carry out the Seventh Army's main effort, General Patton assigned Bradley's II Corps the 1st Division (minus its 18th regimental combat team—RCT—but reinforced by a special Ranger force), the 45th Infantry Division, and a reinforced parachute infantry RCT. Patton kept Major General Lucian

Truscott's reinforced 3d Infantry Division, the other major U.S. assault force, under his direct control.

According to Patton's plan, II Corps was to seize key terrain features north of Gela and Scoglitti. The 3d Division was to land in the Licata area and anchor the Army's beachhead on the west. D-Day was 10 July, and H-hour for the beach assaults was 0245.

The 1st Division, with the 1st and 4th Ranger Battalions attached, was to land over six beaches. The Ranger force was to take the coastal town of Gela; the 26th Infantry RCT was to land east of Gela and assist the Rangers if necessary; if not needed in that role, it was to move around the town and then inland.

Our 16th RCT was to land in the right half of the division's zone, with the 1st and 2d Battalions abreast, and then attack inland toward the hilltop town of Niscemi. The 3d Battalion was the regiment's reserve force.

Along the way, all regimental units had been alerted to join forces with paratroopers of the 505th RCT, who by then would have seized Piano Lupo (Map 2) and other key terrain on our axis of advance.

Few of us in the assault force had any real idea of the number, types, combat effectiveness, or disposition of the enemy forces on Sicily (Map 3). From our recent combat experiences in Tunisia, though, we knew we were in for a real fight, especially if we had to take on a German panzer unit. There-

fore, we were to get off the beaches, advance inland quickly to seize the initial high ground, and then prepare for the inevitable enemy counterattack.

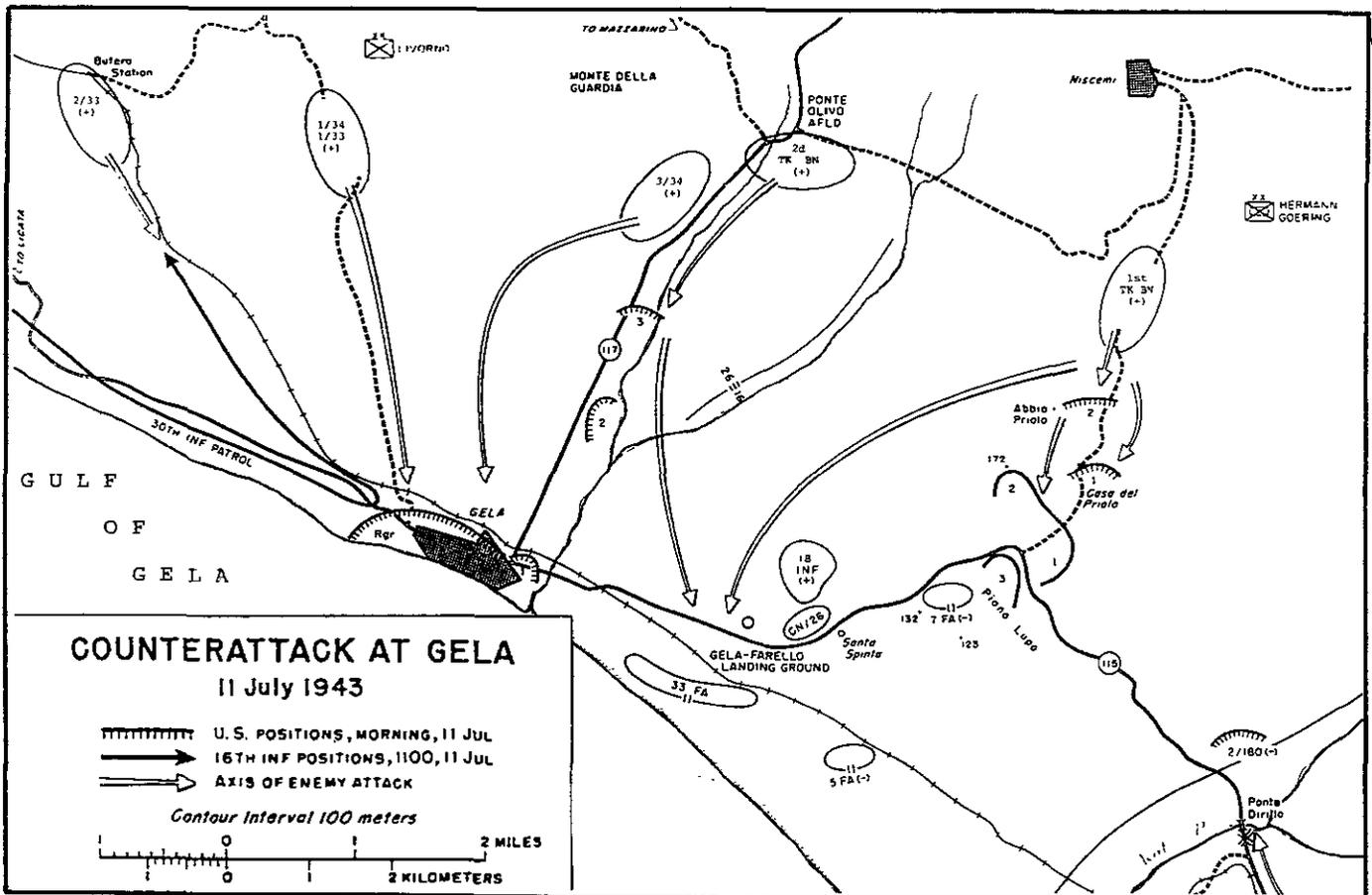
We sailed from Bizerte on 5 July and soon joined the hundreds of other vessels of every shape, size, and description forming the various convoys, all of which would head for Sicily on D-day minus 1. Unfortunately, the good weather of the previous week disappeared almost with the dawning of 9 July. Ships of every size were soon being rocked by heavy seas and 40-mile-per-hour winds. Everyone on our LCI was either seasick or about to be. To make matters worse, we developed engine trouble. I can remember our small craft falling farther and farther behind the invasion armada, which finally disappeared over the horizon. Winds and currents were pushing us toward the rocks of Malta, and it seemed there was nothing the crew could do about it. Finally and forcefully, I was able to get the Navy skipper and his seasick mechanics below decks, where they found the trouble and restarted the engines.

With the engine power restored, our LCI headed north again, finally rejoining the invasion armada well after midnight. Even in the semi-darkness, that line of ships was an awesome sight. Our completely disoriented LCI skipper moved from warships to transports to other invasion ships always asking where our battalion was landing. It turned out to be at the extreme right (east) of the line.

By now, H-hour had come and gone. It was almost dawn when we arrived opposite our designated landing area. Headquarters, I, K, and M companies had landed about 0300, almost on schedule. Now, here we were at 0430 trying to catch up with them across an undefended, peaceful-looking beach. That was the good news. On the negative side, our Navy crew "goofed" again.

According to prescribed procedures, an LCI was supposed to run rapidly ashore, dropping its anchor at the last moment to help it back off the hard sand. On this D-day, our Navy skipper dropped anchor too soon and too far out. The exit ramps on either side of the bow dropped into deep water. As the leading soldiers left the ramps, they sank like rocks into water well over their heads. Only their inflated life preservers saved them from drowning. I tried to persuade the Navy lieutenant to back off and come in again at full speed, but he refused, saying that the LCI was his command responsibility. We would have to find some way of disembarking or go back with him to North Africa. It was all we could do to keep from throwing him overboard, but that would not have helped.

Instead, we had our strongest swimmers carry two long ropes to the beach. We attached these to the bows of rubber life boats and attached a second rope to the sterns to allow us to pull the boats back. Then for the next half-hour or so we loaded the rubber boats with soldiers, pulled them ashore,



Map 3

pulled the boats back to the LCI, and then repeated the process. Although this was a maneuver never before practiced, it enabled me to get Company L ashore and into the fight.

We had a good idea where the battalion should be and, after a brief reorganization, headed north over the sand dunes. There was still no fire headed in our direction; everything seemed too peaceful and quiet. About that time, I saw, for the first time in that campaign, a soldier who had been killed in action—a U.S. artillery officer who had been hit by a high-velocity tank round. Clearly, there was fighting ahead.

We hurried forward to rejoin our battalion on the high ground called Piano Lupo. There, just south of the Gela and Niscemi road intersection, we occupied our assigned defensive sector, reinforcing Companies I and K. Major Charles T. Horner, Jr., our battalion commander, welcomed us warmly. For our part, we were happy to be ashore, back with our Army buddies again. Later that D-day afternoon, two Company L soldiers manning a road block became our first casualties when long range artillery shelling killed one and wounded the other.

For the next two-and-one-half days, the 16th Infantry fought off several strong German counterattacks, and its two leading battalions—the 1st and 2d—paid heavily. The desperate battle between U.S. riflemen and German tanks on 11 and 12 July is summarized in the U.S. Army's official history, *Sicily and the Surrender of Italy*, by Albert N. Garland and Howard McGaw Smith, pages 188-189, as follows:

The 16th Infantry, particularly the 1st and 2d Battalions, had had by far the severest fighting thus far in the invasion. These two battalions had been largely responsible for blunting the Hermann Goering Division's counterattacks. Each battalion had lost its commander. And each subsequently would receive a Presidential Unit Citation for its outstanding performance. Casualty figures alone indicated the severity of the fighting between Piano Lupo and Casa del Priolo on the 11th and 12th of July. During these two days the 1st Battalion lost 36 dead, 73 wounded, and 9 missing; the 2d Battalion lost 56 dead, 133 wounded, and 57 missing.

Captain Bryce F. Denno was executive officer and later commander of the 2d Battalion during the fierce fighting to secure our 1st Division beachhead. He was awarded the Distinguished Service Cross for his inspiring leadership and courageous deeds. Now retired Colonel Denno recently recalled the fighting during those two days:

During the early hours of D-plus-one, Companies E, F, and H attacked, encountered enemy tanks and withdrew to a hill near Priolo Sotton where Company G was dug in with the recently arrived battalion 37mm antitank guns. Some men in the assault companies were crying with frustration because they had nothing with which to fight tanks except a few bazookas. Lieutenant Colonel Arthur Gorham, commander of the parachute battalion that had landed in front of us, also appeared with a handful of his paratroopers. (He had been my squad leader when I was a plebe at West Point.)

Shortly after noon, enemy tanks attacked and I hit the ground with Company G's executive officer alongside me. "Hell, let's not wait for them to attack us," he said. "Let's attack them

first." These brief words were his last. Hit in the head by a bullet, he died instantly.

During the ensuing fight, I tried to move about as much as possible to encourage the troops. I watched one tank charge a 37mm gun, bursting into flames just before it overran the gun and its wounded crew. I saw a soldier with a bazooka and loaded a round for him. He hit a tank that passed just yards away with its gun at right angles pointing directly at us. The tank careened crazily on a slope, then turned over and burst into flames. I saw another soldier standing up, firing his .45 caliber pistol at a tank. Our intense small arms fire forced the tanks to button up.

Officers manned another 37mm gun and fired on a tank pursuing soldiers from our assault companies. They had not had time to dig in. The gun scored a hit and the tank withdrew. One of our officers, a Lieutenant Elzy, put a 60mm mortar round in the open turret of another tank—a miraculous shot. The tank, which appeared to be a command vehicle, never budged thereafter. A bazooka team from Company F knocked out another tank, bringing our tank kills to four. The remainder of the tanks withdrew.

As darkness approached, we could see additional tanks assembling in the Casa del Priolo area to our front. Using a field telephone, I directed fires from the USS Boise (my fire orders being relayed by radio to the cruiser from the beach). Concurrently, I directed the fire of our 7th Field Artillery Battalion. The tanks scattered.

In the early hours of D-plus-two, we continued the attack with two rifle companies; I commanded them. In single file we moved like ghosts past nearby Germans we could hear talking and digging in. After reaching our objective—high ground south of Casa del Priolo—I returned to the battalion CP, which was co-located with our reserve company.

At first light we came under heavy machinegun fire from the Germans, some of whom were between our reserve company and our assault companies. From our observation post (OP), Lieutenant Colonel Joseph Crawford, our battalion commander, and I tried to find out what was going on. He was hit by machinegun fire in the shoulder and neck and I helped him from the OP and saw to his evacuation.

At my urgent request, regimental headquarters sent us two self-propelled guns from Cannon Company—a 105mm howitzer and a 75mm howitzer. We located these in defilade about 400 yards to the front of our reserve company. When I started toward their position, I came under machinegun fire from my left flank. I hit the ground and crawled a few yards. Then I got to my feet and started running. The machinegun opened up again and when the bullets started coming close I grabbed my belly as though hit, dropped to the ground, and started crawling again. The machinegun stayed with me as I repeated this performance three or four times. There might have been more than one enemy machinegun. An 88mm round, apparently fired by a Mark VI tank on the Niscemi road, just missed me—it was a dud.

Finally I reached the two howitzers and joined the 75mm crew and directed it to attack the machinegun. The moment we came out of defilade, however, our half-track was hit by

an enemy shell that passed through the front of the vehicle, wounding the driver, and exploded in the tool box underneath the gun, wounding additional crew members. The piece was out of action.

Accordingly, I crossed over to the 105mm howitzer's full-track vehicle and took command of the gun. The 105mm fire silenced the machinegun. Cannon Company, which I had activated, trained, and commanded throughout the North African campaign, had come through for me again!

Subsequently, the 105mm howitzer's gun crew, on its own, engaged Mark VI tanks on the road to Niscemi, took a direct hit from an 88mm gun that killed the gunner and wounded the crew members before their track burst into flames.

Things were suddenly quiet and it appeared the enemy had withdrawn. Therefore, we resumed the attack, taking the Casa del Priolo position with ease. At that point we were joined by a platoon of U.S. medium tanks that attracted immediate enemy tank fire and destroyed the platoon leader's tank. The rest withdrew.

Reaching regimental headquarters by telephone, I talked with Captain Carl Plitt, the regimental S-3. "General Patton directs that we continue the attack," Carl said. "Give me the regimental commander," I replied. I explained our situation to Colonel George A. Taylor. I told him I had about 200 men, including the paratroopers who were now commanded by a captain, [Lieutenant Colonel] Gorham having been killed. To our front, parallel to the Niscemi road, was an open field that ended in woods some 800 yards away. There were tanks in the woods that came out, from time to time, to shoot at us. To our northeast was German artillery; we had seen what it had done to our friendly tanks. Our flanks were open. Colonel Taylor agreed we should stay where we were.

That night the enemy subjected us to a tremendous artillery barrage and we braced for his attack. In reality, he was withdrawing. We entered Niscemi unopposed the next day, 13 July.

From where we in the 3d Battalion were located, we could not observe the fierce fighting on 11 July that took place north of our defenses, but the sounds of war were loud and clear. The naval gunfire was especially awesome. Toward late afternoon, I watched the arrival of our regimental Cannon Company with its 75mm and 105mm howitzers.

Deploying his howitzers laterally on the reverse slope of a north-south ridge not far from Company L's position, the commander employed a seldom-used but well-practiced maneuver to take on the attacking German tanks. An NCO from each howitzer moved forward to an OP; when he spotted a German tank to his front, he skillfully directed his howitzer into a hull defilade firing position. The howitzer crew then fired several shots directly at the designated enemy target and then backed the howitzer off the crest before another German tank gunner could retaliate. The howitzer crews repeated the procedure, which required discipline and teamwork of the highest order, again and again with great success. Many enemy tanks were destroyed or severely damaged during the next two days. The soldiers of Cannon Company earned a Presidential Unit Citation for their courageous and effective deeds.

From the high ground of Piano Lupo most of us in the 3d

Battalion had a grandstand seat for the fireworks generated by a massive German bombing attack near the Gela beaches and the Navy's reaction to it during the early evening hours of 11 July. We even ducked a few times as debris from anti-aircraft fire seemed to be falling around us. Later, after what seemed like almost an hour of bombing, calm was restored and the beachhead became quiet.

We had been told to expect a parachute drop by Colonel Reuben Tucker's 504th Parachute Infantry Regiment about 2300. As it turned out, the lead troop carrier planes (C-47s) crossed the beach-line about ten minutes early. We cheered as the first parachutes opened and our paratrooper reinforcements floated down to their drop zones.

Then we witnessed a terrible disaster—the worst of the campaign. Probably due to the recent air raid, an over-eager anti-aircraft gunner opened fire. Within what seemed like seconds, every ship in the area and some of our shore-based anti-aircraft units joined in the shooting. We watched helplessly as our buddies were killed by friendly fire. Seeing the planes fall from the sky and seeing open parachutes shredded by the tremendous volumes of shells and shrapnel was an awful experience, never to be forgotten.

The incident was investigated, of course, but no specific person could be found negligent. On the other hand, because of the after-action report, our later airborne drops in Normandy were diverted around Allied ships and troops and came in over German rear areas to avoid another tragedy of this kind.

The 1st and 2d Battalions were ordered to conduct a night attack during the night of 11-12 July. The 3d Battalion was ordered to occupy defensive positions north of the Gela and Niscemi road intersection as the assault companies of the two leading battalions advanced to the north. In the semi-darkness of a quarter-moon sky and burning hilltops, I deployed my company around a small hill that had been vacated by Company G. Dead soldiers, both German and American, were to be seen throughout the area. The smell of death was in the air. We grieved for our losses, knowing we were the lucky ones to have been in reserve. Our morale, which had been tested by this eerie moonscape, fell another couple of notches upon seeing two U.S. soldiers who had been crushed in their very shallow slit trenches by German tank treads. As dawn arrived and the reports of progress reached us from regiment, our spirits rose again, and we got on with the war.

(EDITOR'S NOTE: General Smith's recollections of the Sicily campaign will conclude in INFANTRY's September-October 1993 issue.)

Major General Albert H. Smith, Jr., U.S. Army Retired, also served with the 1st Infantry Division in Vietnam, as assistant division commander and acting division commander. He served as Honorary Colonel of the 16th Infantry Regiment from December 1983 until May 1990.



THE GUADALCANAL CAMPAIGN

MARY ELLEN CONDON-RALL

On 7 December 1941 the Japanese opened the war in the Pacific with simultaneous attacks on Pearl Harbor, the Philippines, Wake Island, Guam, and Malaya. They soon expanded their empire through East Asia, the Indies, and Melanesia, establishing advance bases to protect their captured resources. By May 1942 enemy forces held the Bismarcks, the Solomons, and most of New Guinea, and stood poised by Rabaul to dominate the Southern Pacific. These moves threatened Australia, whose eastern coast lay exposed to raids from the Solomons, and jeopardized lines of communication from the United States to New Zealand and the southern continent. Despite a commitment to defeat Germany first—and despite the complication of ship, troop, and supply shortages—the Allies vowed to contain the Japanese advance.

For strategic purposes, the British–U.S. Combined Chiefs of Staff had divided the world into areas of military responsibility, with the United States assuming the primary burden for war in the Pacific. On 30 March 1942 the U.S. Joint Chiefs of Staff divided the Pacific Ocean into two separate commands, the Southwest Pacific Area and the Pacific Ocean Areas, placing the former command under General Douglas MacArthur,

who had just escaped from the Philippines to Australia, and the latter under Admiral Chester W. Nimitz, Commander in Chief, U.S. Pacific Fleet, with headquarters at Pearl Harbor. On 20 April 1942 the Joint Chiefs established the South Pacific Area as a subdivision of the Pacific Ocean Areas with the mission of containing the Japanese advance toward Australia and New Zealand, and preserving the lines of communication between those countries and the United States.

To halt the enemy advance and prepare for the offensive, the United States established bases and sent troops to the South Pacific. The Americal Division deployed to New Caledonia and the 37th Infantry Division to the Fijis; smaller forces secured the Tonga Islands and the New Hebrides Group. Elements of the 1st Marine Division arrived in Wellington, New Zealand, in mid-June. That month the Joint Chiefs committed more Marine and Army air squadrons to the area. The increase in Army troop strength and the imminence of combat led the U.S. War Department to reorganize Army forces into a single command—the U.S. Army Forces in the South Pacific Area.

In July 1942 the Joint Chiefs approved a plan to dislodge

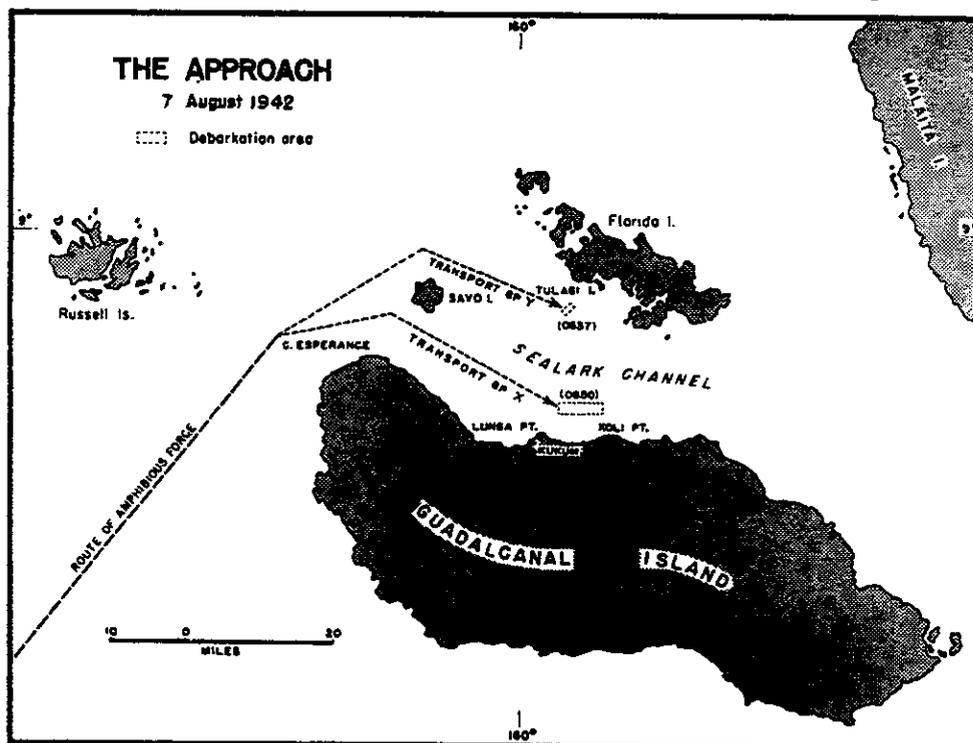
the Japanese from New Guinea, the Bismarcks, and the Solomons. Allied air and naval forces had blocked Japanese progress and restored naval balance in the Pacific in the battles of the Coral Sea (May) and Midway (June), destroying five carriers and hundreds of aircraft and pilots of the Imperial Japanese Navy. The Joint Chiefs proposed a two-pronged assault, one up the Solomons chain and the other toward northern New Guinea from Port Moresby, with the recapture of Rabaul (the center of the Japanese defense perimeter) as the final objective. Admiral Nimitz and General MacArthur were to support each other's operations with naval and air forces. The first step in the offensive, the recapture of the Guadalcanal-Tulagi area, could not be executed until August for want of transport ships.

On 6 July 1942 Japanese troops and construction personnel had landed on the north shore of Guadalcanal and had begun constructing an airfield and a base for subsequent operations. The U.S. objective was to seize these installations and retake the island from the Japanese. The overall direction of the campaign was in the hands of Admiral Nimitz, Commander in Chief, Pacific Ocean Areas. In early July 1942 he appointed Vice Admiral Robert L. Ghormley Commander, South Pacific, with headquarters at Auckland, New Zealand. Simultaneously, the Army designated Major General Millard F. Harmon, Chief of the Air Staff, Commanding General, South Pacific, also headquartered in Auckland. General Ghormley's South Pacific force was to capture the Santo Cruz islands and the Tulagi-Guadalcanal area in the Solomons. Vice Admiral Frank J. Fletcher would command the invasion force, consisting of aircraft carriers, other warships, and the amphibious force (which included transports, cargo vessels, and the troops who would make the landing) under Rear Admiral Richmond K. Turner. The landing force was to consist of the reinforced 1st Marine Division (minus the 7th Marines), the rein-

forced 2d Marines (then enroute to the South Pacific), and other troops totaling 19,500 men, commanded by Major General (later General) Alexander A. Vandegrift. Land-based aircraft (291 planes including those of the Army) under Rear Admiral (later Vice Admiral) John S. McCain, Air Commander under Admiral Ghormley, were to cover movements of the Expeditionary Force and perform scouting missions. Later, Army forces not yet selected were to relieve the Marines. Navy forces were to support the campaign and construct air bases for Army and Navy aircraft. General MacArthur promised to use Southwest Pacific air forces to counter Japanese attempts to send reinforcements to Guadalcanal from their base at Rabaul, and Admiral Nimitz was to use submarines of the Pacific Fleet to prevent the Japanese from reinforcing Guadalcanal with troops from Truk.

Admiral Ghormley and his successor, Admiral William F. Halsey, consulted General Harmon on the design and execution of the campaign, particularly in the preparation and execution of plans involving Army forces. Although Harmon was to have no operational control over these forces, the Navy would later delegate to him authority over specific operations, and for limited periods of time, making him much more powerful than had been intended. From the first, however, Harmon was responsible for the administration, training, and logistical support of all the Army ground and air forces that were to participate in the campaign.

Guadalcanal was not the picturesque paradise one envisions when speaking of a South Pacific island. Ninety miles long and 30 miles wide, the volcanic island had jungled mountains; a hot, wet climate with temperatures between 70 and 95 degrees; and a monsoon season that lasted from November until March. Sandy coasts lined with coconut palms contrasted sharply with the interior of humid rain forests, crocodile-inhabited river deltas, and mosquito-infested swamps. Here,



two-thirds of the U.S. forces would become ill, and more than one-third of the Japanese fatalities would be from sickness.

The primitive Melanesian people who inhabited the British protectorate were generally loyal to the Allied cause. They assisted the coast-watchers; served as scouts, guides, and laborers; and rescued pilots and sailors from the sea.

Information about the terrain and enemy strength and dispositions was difficult to obtain. There were no good maps of the island, a deficiency that would not be remedied during the campaign. Similarly, there was no opportunity for ground patrols to reconnoiter the island before invading. For data on the terrain, landing beaches, and climate, the 1st Marine Division's intelligence section relied on U.S. Navy and Army monographs, extracts from the Pacific Islands Yearbook, and reports of the British Navy and Colonial Office. The division based its estimates of enemy strength and dispositions on aerial reconnaissance and reports from coast-watchers, both of which proved highly inaccurate. By 20 July the intelligence section estimated 1,400 enemy troops in the Tulagi area and 7,000 on Guadalcanal. In early August only 780 Japanese were in the Tulagi region and 2,230 on Guadalcanal.

Logistics proved as difficult as intelligence. Although the division had come overseas with nearly all its equipment and supplies, shortages of shipping meant inadequate space in which to combat-load the whole division with its supplies and equipment. Ammunition allowances were reduced by half, rations and fuel by one-third, and office and mess equipment severely curtailed. Seventy-five percent of the heavy vehicles had to be left behind in Wellington.

More serious was the high command's lack of confidence and sense of common purpose. Several senior commanders gave the campaign only half-hearted support. Admiral Fletcher did not want to risk the few carriers within range of Japanese land-based aircraft; he said he would keep his carriers at Guadalcanal no longer than two days, even though he knew the landing would take five days, and no one overruled him. General MacArthur and Admiral Ghormley recommended delay until enough strength could be accumulated to allow a continuous sweep to Rabaul. Admiral Ghormley thought his primary mission was to safeguard the lines of communication between the United States and Australia and New Zealand. Therefore, he opposed risking his rear bases by depleting their garrisons for an extended operation on Guadalcanal. On the other hand, Admiral Ernest J. King, the Joint Chiefs' executive officer for the Pacific Ocean Area, wanted to seize the initiative and begin, as soon as possible, a step-by-step drive into the Solomons. The Joint Chiefs backed Admiral King.

Despite hurried planning, order was achieved. For combat, the 1st Marine Division was organized into two regimental combat groups. Each had about 4,500 men and consisted of three battalion combat teams plus headquarters and support forces. Three battalions were to land on Tulagi and other small islands and the remainder of the division on the undefended beaches of Guadalcanal's north coast.

The area selected lay between the Tenaru and Tenavutu Rivers, about 6,000 yards west of the Lunga airstrip—a major objective, and far from Lunga and Koli Points where the

Japanese were thought to be located. Since there were not enough landing craft to execute all the landings simultaneously, the troops would go ashore at intervals on D-day and D-plus-1. The first Allied offensive in the Pacific, one of the largest amphibious operations in the history of the United States up to that time, was about to begin.

After rehearsals in the Fiji Islands, the invasion fleet approached Guadalcanal from the south on 6 August. Heavy naval and air bombardment preceded the landings, which went in on schedule the next morning. By 9 August the 2d Marines and elements of the 1st Marine Division captured the islands in the northern group—Tulagi, Gavatu, and Tanambogo—and small islands nearby despite hard fighting by the Japanese. Lacking special equipment such as flamethrowers, which later became standard equipment in the Pacific war, the Marines had to improvise demolition charges to seal cave openings or flush out the Japanese.

The landings on the northern coast of Guadalcanal were unopposed, and by 8 August the Marines had taken the airfield against light opposition, renamed it Henderson Field, and established a defensive perimeter around it. Tactical operations were satisfactory, considering that the Marine division was understrength, undertrained, and underequipped. It helped that the enemy, two-thirds of whom were laborers, did not oppose the advance and actually fled from the nearly completed airfield.

In contrast with tactical developments, logistical operations had bogged down. Too few troops were on hand to unload the boats and move materiel to the beach. Since many of the landing craft did not have bow ramps to aid the removal of supplies from the boats, supplies had to be lifted up and over the gunwales. On the other hand, although amphibian tractors could move directly from shipside to the inland dumps; there were, unfortunately, too few of these tractors. Enemy air assaults on the transports also forced a delay in the unloading operations.

Beginning on the afternoon of 7 August and continuing through the next day, attacks from Japanese bombers out of Rabaul—despite the efforts of General MacArthur's planes to keep Rabaul neutralized—forced the amphibious fleet to move south, leaving the Marines without naval or air support, and with only meager supplies. Under these circumstances, General Vandegrift could do little but concentrate his forces around Henderson Field and await reinforcements, which could be brought in only by blockade-running ships or by air.

Early on 9 August enemy warships surprised the U.S. armada off Savo Island, sinking four U.S. cruisers and damaging one cruiser and two destroyers. The Japanese ships were unharmed. Faulty U.S. reconnaissance and the fact that the carriers had already retired southward contributed to American losses.

The withdrawal of naval forces from Guadalcanal left the Japanese free to land reinforcements on the island. On 24 August U.S. carrier planes discovered the enemy fleet transporting about 1,500 troops to Guadalcanal. Admiral Fletcher's carriers engaged the Japanese carriers east of Guadalcanal in a fight that became known as the Battle of the Eastern Solomons.

The Japanese carrier *Ryuju*, a transport, and a destroyer were sunk and the USS *Enterprise* damaged. The Japanese transports were turned back, and enemy reinforcements had to wait for another chance to land, at night, from destroyers. This delay gave the 1st Marine Division time to strengthen its defenses.

To improve security, the Marines completed the airfield (which opened on 20 August) and worked on extending the perimeter westward. The latter led to skirmishes with elements of General Haruyoshi Hyakatake's 17th Army—veterans of the China, East Indies, Philippines, and Truk campaigns—headquartered at Rabaul. Meanwhile, U.S. air squadrons began to build up on the newly opened airfield, which enemy planes out of Rabaul bombed almost daily and Japanese warships and submarines shelled repeatedly.

The defense of the airfield became first priority and involved the integration of U.S. land, sea, and air power. Ground forces protected the perimeter from infantry attack; air forces of the Cactus (the code name for Guadalcanal) air force (a miscellaneous lot of Army and Marine squadrons and Navy aircraft) kept enemy ships and planes away from Guadalcanal during the day; and U.S. Navy ships brought supplies and reinforcements (Marines, soldiers, and air crews) to the island.

Since the Americans dominated the sea and air around Guadalcanal during the day, the Japanese began to reinforce the island at night, landing men and equipment from destroyers, landing craft, transports, and cargo ships. By these means, they were able to land a force of more than 6,000 men, under the command of Major General Kiyotake Kawaguchi, between 29 August and 11 September 1942.

The Japanese plan was to attack the Marines from the east, west, and south, while the aerial and naval bombardment of Henderson Field distracted its defenders. General Vandegrift, hearing of General Kawaguchi's presence to the east, ordered a Marine Raider Parachute Battalion to take up positions on a 1,000-foot-long open ridge that overlooked Henderson Field. On 13-14 September the Japanese attacked the Marine positions east of the Lunga River on this low ridge, later called Bloody Ridge, in one of the most brutal battles of Guadalcanal. Heavy Marine artillery fire was able to repulse the Japanese troops, despite their infantry attacks, calcium flares, mortar barrages, and infiltration behind American lines. General Kawaguchi grimly withdrew, having lost about one-fifth of his force. One-third of the valiant U.S. Marines were either killed, wounded, or missing. The Japanese decided that more men, tanks, and artillery were needed to dislodge the Americans from their Lunga defenses.

During late September and early October, Japanese forces built up on Guadalcanal. (The swift-moving convoys of destroyers and cruisers ferrying men and equipment from the northern Solomons came to be known as the "Tokyo Express.") Meanwhile, the Marines also received more troops and supplies. On 18 September the reinforced 7th Marines (4,180 men) of the 1st Marine Division arrived along with additional ammunition, vehicles, equipment, and stores.

The division attempted to clear the enemy out of the west in the Matanikau River area and to keep them beyond artillery

range of Henderson field. Two regiment-strength offensives occurred:

The first offensive was conducted 24-27 September by the newly arrived 1st Battalion, 7th Marines; the 2d Battalion, 5th Marines; and the 1st Raider Battalion. The hastily conceived plan, which provided for little artillery support and no air cover, ultimately failed. During the attack, enemy planes bombed Marine positions in the Lunga area, disrupting the division's communications with the front. All the troops were withdrawn to the Lunga perimeter when they failed to dislodge the Japanese from their strongly entrenched positions.

The second offensive, 7-9 October, by the 5th Marines, 7th Marines, trailed by the 3d Battalion, 2d Marines, and the division's scout-sniper detachment—received air cover from the 1st Marine Air Wing and met with partial success. Casualties were heavy on both sides in fighting that consisted of small arms fire, grenades, and hand-to-hand combat.

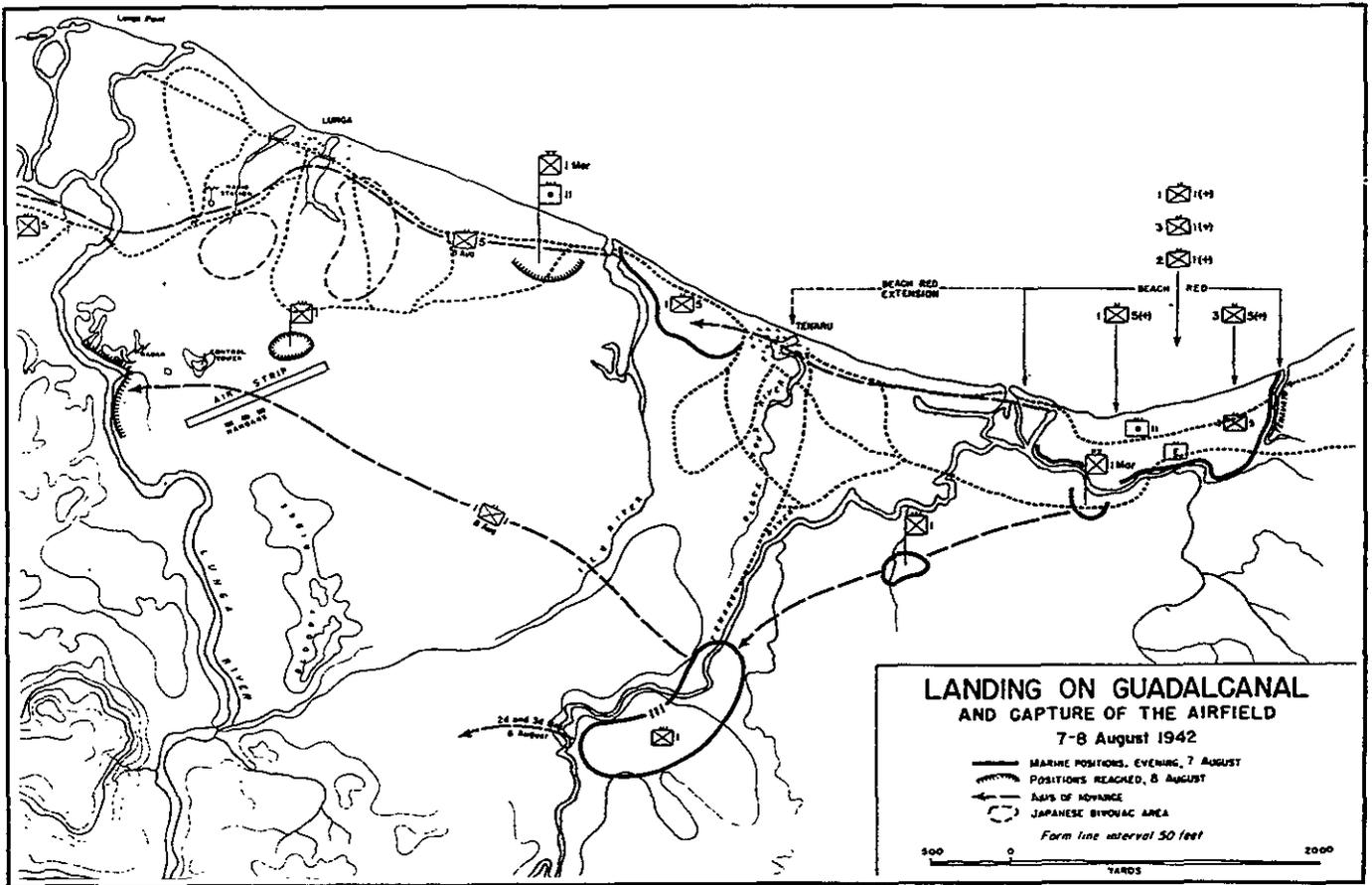
By 9 October the remaining enemy east of the Matanikau had been killed, and the Marines held the east bank of the river, which was essential to the defense of Henderson field. As it seemed likely that the Japanese would again try to take the airfield, Guadalcanal was reinforced by the 164th Infantry Regiment of the Americal Division, which arrived from New Caledonia on 13 October. With these reinforcements, U.S. troop strength on the island reached 23,088 men.

Two days before the first Army unit arrived on Guadalcanal, Admiral Norman Scott, in an attempt to stop the Tokyo Express and the nightly naval bombardment of Henderson Field, intercepted Japanese naval units in the channel between Cape Esperance and Savo Island. The sea battle, named after Cape Esperance, only temporarily achieved its objectives. Enemy transports landed more troops on October 15, and the onslaught on the airfield continued, making it unusable as a base for heavy bombers.

From 23 to 26 October the Japanese conducted their last offensive to dislodge the Americans from their defenses around Henderson Field. The Japanese planned a three-pronged attack on the Marine perimeter, supplemented by air strikes and naval gunfire—more of the same, familiar tactics. And like previous Japanese plans, this one was too ambitious, too complex, and too dependent on perfect communications.

The Japanese Sendai Division, nine infantry battalions and 5,600 men under General Masao Maruyama, made its main attack south of the Lunga perimeter in torrential rain. The attack developed into a series of tank-infantry assaults without supporting artillery and mortars. The Japanese had abandoned this equipment during the difficult march east through mountains and jungle. The Americans remained at their posts concentrating small arms, heavy weapons, and artillery fire on the charging Japanese troops, and eventually routing them. Casualties on both sides were heavy in these frequent and violent attacks.

The Army's 164th Infantry, in battle for the first time, helped the 7th Marines hold the line east of Bloody Ridge. Communications among the Japanese forces began to break down as they faced a foe with superior numbers and weapons. On the night of 25-26 October, General Hyakatake made a



last futile attempt to retake Henderson Field and three days later began a general withdrawal. The Japanese counteroffensive had failed. General Vandegrift resumed the move westward to drive the enemy out of artillery range of Henderson Field.

On the last day of the counteroffensive, a Japanese armada engaged a much weaker U.S. task force off the Santa Cruz Islands in a battle that proved less decisive than the ground action of the same day. Both fleets were forced to withdraw after suffering lost or damaged ships and planes.

The United States was committed to holding Guadalcanal, and during November more ground, air, and naval forces arrived on the island. The Americal Division's 182d Infantry landed on November 12, followed by the 3d Battalion of the 147th Infantry on November 29. The 8th Marines of the 2d Marine Division, artillery troops, Seabees, and aviation units also arrived. By the end of the month, Marine and Army aviation units at Henderson field operated a total of 188 planes of all types.

During the first half of November, the Americans fought local offensives in an attempt to extend the line westward to Kokumbona. Troops of the 164th Infantry and the 2d and 8th Marines assaulted Japanese positions on a three-battalion front but made little headway. The Americans, however, succeeded in preventing a small Japanese force that had landed east of the perimeter at Koli Point from establishing an airfield there.

In mid-November Vandegrift halted the ground attack to

concentrate his forces on preventing the Japanese from landing their 38th Division on Guadalcanal for a counteroffensive. Between 12 and 15 November, the U.S. Navy and the Cactus air force fought the Imperial Japanese Navy in a series of engagements known collectively as the Naval Battle of Guadalcanal. Although the Japanese sank nine U.S. warships and lost six of their own, thousands of their troops drowned when eleven transports were sunk. This engagement marked the last major effort of the Japanese Army and Navy to conduct a coordinated attack on the Lunga airfield.

The battle also demonstrated a new aggressive spirit on the part of U.S. higher headquarters. Admiral Halsey, who had taken over command from Admiral Ghormley in late October, had sent the battleships in despite doctrine that discouraged their use in narrow waters with little sea room for maneuver.

After the mid-November naval victory, General Vandegrift resumed the offensive toward Kokumbona and the Poha River. The attack, which lasted from 18 to 25 November, was conducted by the 164th Infantry, all under the tactical command of Brigadier General Edmund Sebree, assistant division commander of the Americal Division. The battleground consisted of the flat area in front of Point Cruz and a series of hills and ravines west of the Matanikau River in which the Japanese had built strong positions. Protected from U.S. artillery and mortar fire, the Japanese covered the entire American front with small arms, automatic weapons, artillery, and mortars. Although U.S. forces were able to establish permanent positions west of the Matanikau, they were unable to advance. The

attack ended in a stalemate, with the Americans and the Japanese facing each other at close range. This dangerous situation continued until U.S. reinforcements could be delivered in preparation for a XIV Corps offensive in January.

In December 1942 higher headquarters decided to relieve the sick and battle-weary 1st Marine Division and send them to a healthier climate. During months of infantry attacks, air raids, naval assault, inadequate diet, malaria, and dysentery, the division had suffered 10,635 casualties, only 1,472 of which were battle casualties; illness, especially malaria, accounted for the rest.

The 25th Infantry Division on Hawaii was ordered to Guadalcanal to replace the Marines, who left the island on 9 December. Major General Alexander M. Patch, Commander of the Americal Division, succeeded General Vandegrift as commander of U.S. forces on Guadalcanal, and the Army assumed responsibility for the campaign. General Harmon received tactical authority over operations from Admiral Halsey. The 132d Regiment of the Americal Division had landed on the island on 8 December, and the Army's 43d Division was already enroute to the South Pacific.

The first half of December became a period of transition, as the Army awaited reinforcements and assumed responsibility for tactical operations. Control of the sea and air enabled American troops and supplies to land easily. For the remainder of December, soldiers and Marines held on to the ground they had already gained and launched small, tough offensives to capture Mount Austen, the apex of a series of steep, rocky, jungled ridges lying six miles southwest of Henderson Field. The capture of this peak that dominated the Lunga perimeter and the hills to the west was in preparation for the major January offensives west of the Matanikau River.

Between 24 December 1942 and 2 January 1943, the 132d Infantry, supported by artillery and dive bombers, attacked the Gifu—the Japanese strong point on Mount Austen, which lay on the jungled slopes between Hills 31 and 27 west of the summit. The soldiers fought for each piece of ground against an invisible enemy in thick well-camouflaged pillboxes. A coordinated attack from the north by the 1st and 3d Battalions, coupled with a wide envelopment by the 2d Battalion, captured Hill 27 on 2 January. The soldiers then encircled the eastern portion of the Gifu, denying observation of the perimeter to the Japanese who still held part of Mount Austen. The Americans' move enabled them to operate west of Mount Austen in the upcoming major offensive.

On 2 January 1943 General Harmon activated the XIV Corps consisting of the Americal and 25th Divisions with the 2d Marine Division and other Marine ground forces attached. General Patch became commander of the XIV Corps with tactical authority over operations, and General Sebree became commander of the Americal Division. By 7 January 1943 Allied air, ground, and naval forces in the Guadalcanal area totaled about 50,000 men, enough for large-scale operations. The Americal Division numbered about 16,000; the 25th Division, 12,692; the 2d Marine Division, 14,733.

In the major January offensive to drive the Japanese from the island, the 25th Division was to reduce the Gifu strong

point (eliminating organized enemy resistance east of the Matanikau), and capture the high ground south of the Point Cruz–Hill 66 line, beginning the envelopment of the Point Cruz–Kokumbona area, and extending the western U.S. lines far enough inland to allow a clean sweep of the Japanese. The 2d Marine Division was to advance along the coast and prepare to assist the 25th Division. The Americal Division was to hold the perimeter defense from 9 to 26 January. Only its artillery, the reconnaissance squadron, the 182d Infantry, and the 2d Battalion of the 132d Infantry were to take part in the attack.

The attack commenced on 10 January 1943, when the 27th Infantry of the 25th Division assaulted Japanese positions in the 900-foot hill mass called the Galloping Horse (from its appearance in aerial photographs), which dominated the Point Cruz area to the north. From well-camouflaged positions dug into the coral rock, the Japanese covered all approaches of the American infantry, advancing in companies, and a long hard fight ensued. In support of the ground troops, U.S. aircraft and artillery fire struck enemy positions before every attack. The infantry capitalized on the shock effect of the preparatory fires by charging immediately after the artillery fire ceased. By the fourth day, the Galloping Horse was in U.S. hands, and the infantry could concentrate on cleaning out the jungled gorges to the north and south, building defensive positions, and preparing for the next assault.

While the 27th Infantry was achieving success over the open hills of the Galloping Horse, the 35th Infantry of the 25th Division was subduing the Japanese on the Gifu and in the hilly jungled area south of the southwest fork of the Matanikau. This area was named the Seahorse (again from its appearance in aerial photographs). Between 10 and 23 January, the 35th Infantry captured the Sea Horse, advanced to the Matanikau, and cleared the Gifu in a tough battle involving infantry, armor, artillery, and antitank guns. The destruction of the Gifu wiped out the last effective Japanese force east of the Matanikau River, and the 35th Infantry became the reserve of the 25th Division, which was then advancing rapidly to the west.

Before the 35th Infantry had completed the assault on Mount Austen, the 2d Marine Division—supported by Americal Division and 2d Division artillery and the 2d Marine Air Wing—advanced westward along the coast from the Hill 66–Point Cruz line, gaining about 1,500 yards. This advance gave the XIV Corps a position from which it could start its drive into Kokumbona, which had been a major objective for some time.

The 25th Division's capture of the Galloping Horse on 13 January doubled the length of the Corps' west front, enabling the Corps to advance westward on a broad front without much danger of having its left flank enveloped. General Patch prepared for a second coordinated attack that was designed to carry through Kokumbona to the Poha River, about 9,000 yards west of Point Cruz.

In this second offensive, the Americans pursued the retreating Japanese 17th Army all the way to Cape Esperance. The Composite Army Marine (CAM) Division—formed from the 6th Marines, the 182d and 147th Infantry Regiments, and the

2d Marine and Americal Division artillery units—drove up the northwest coast. The Marine Air Wing and the U.S. Navy supported the advance by bombarding coastal positions. The 25th Division attacked inland in a southwesterly direction enveloping the Japanese south flank, while a reinforced infantry battalion (the 2d Battalion, 132d Infantry), which had landed in the enemy's rear on the southwest coast, operated out of Verahue toward Cape Esperance.

Most of the fighting was light, with none of the nightly attacks that had characterized earlier Japanese operations, and the Americans were able to capture Kokumbona on 23 January and reach the Poha River two days later. West of the river, U.S. forces met stiff rear-guard action from fleeing troops using machinegun and antitank gun fire to slow the coastal advance. Nevertheless, the retreating, starving, and diseased Japanese could not hold out for long. While the Americans consolidated their positions, the Japanese skillfully withdrew to Cape Esperance, where destroyers miraculously evacuated them between 1 and 8 February. More than 13,000 Japanese troops escaped Guadalcanal in this way, completing their evacuation during the night of 7-8 February. The next day, the U.S. forces met at the village of Tenaro on Cape Esperance, bringing the campaign to a close.

Although the Japanese skillfully and shrewdly evacuated their troops from Guadalcanal, the essential significance of the campaign remained unchanged. In executing the task prescribed for them by the Joint Chiefs of Staff, the U.S. forces stopped the Japanese advance toward the U.S.-Australian line of communications, acquired a base from which to attack Rabaul, and took the initiative away from the previously victorious Japanese.

The cost of defeat to the Japanese can be measured in other than strategic terms. In manpower alone, the Japanese suffered 14,800 killed or missing, 9,000 dead of disease, and 1,000 taken prisoner. Although both navies lost the same number of ships (24), the Japanese could not afford to lose these ships, because they could not match the massive U.S. shipbuilding program. The loss of more than 800 aircraft and pilots was to hinder Japanese operations for the rest of the war.

The 60,000 Army and Marine ground forces suffered less. Casualties amounted to about 1,590 killed and 4,245 wounded. Thousands more U.S. soldiers suffered from diseases, especially malaria. Navy losses, never compiled to this day, were greater than the ground losses, and several score fliers from all three forces lost their lives.

The American cost might have been less and victory might have come sooner if the campaign had begun under more advantageous circumstances. The operation commenced despite inadequate training, meager intelligence about target areas, the difficulties of hasty combat-loading, and the lack of time for coordinated planning among all the forces involved. Commanders at different levels had different views of the operation's purpose and how it should be carried out. Ground commanders viewed Guadalcanal as a normal amphibious operation with naval forces controlling the sea and air. The Navy saw the campaign as a hit-and-run raid, which is exactly what it turned out to be. Two days after being put ashore,

the Marine division found itself stranded without the equipment or supplies needed to withstand major counterattacks. Fortunately for the Americans, the Japanese waited for reinforcements before conducting major offensives, giving the Marines time to complete Henderson Field and obtain troops, planes, ammunition, and supplies.

An early U.S. move to eliminate the Japanese from Guadalcanal would have required bold initiative and risk, characteristics Admiral Ghormley lacked. He was reluctant to strip rear bases of their garrisons for fear of losing the fallback positions he would need if the Japanese should recapture Guadalcanal. Admiral Halsey, on the other hand, showed aggressive leadership and a willingness to take great risk. Replacing Admiral Ghormley's defeatism and conservatism with a fighting spirit quickly changed the course of the battle.

In protecting Henderson Airfield, fighter planes of the Cactus air force consistently shot down more planes than they lost. U.S. air tactics had evolved beyond the World War I-style dogfighting of the Japanese planes, and the U.S. aircraft had superior maneuverability. The fighters and bombers of the Cactus air force prevented the field from falling into enemy hands and enabled the ground forces to complete their objectives.

In achieving those goals, the half-trained men of the Marine division showed a courage second to none. Despite constant enemy attacks, the Marines seized and held the Guadalcanal port and airfield, the campaign's main objectives. They performed brilliantly at Bloody Ridge and during the late-October offensive on Henderson Field. The Army's Americal and 25th Infantry Divisions performed equally well in the violent frontal assaults on Mount Austen and in the major ground offensives of January 1943. They cleared the enemy from Guadalcanal, including his strongest position—the Gifu—and all areas west of the Matanikau.

Tactically, Guadalcanal was a virtual lesson book. The campaign became a model for studying amphibious operations, tank-infantry attacks, cave assaults, artillery support, jungle fighting, and coordination of air, sea and ground forces—all of which characterized later operations in the Pacific. The recommendations from Guadalcanal commanders became doctrine for Allied fighting men the world over.

Strategically, Guadalcanal was worth every ship, plane, and life lost there. At Guadalcanal, the Americans struck back in a genuine offensive and meted out to the Japanese a defeat that halted the advance of their striking power against Australia and the United States. Even many Japanese, in postwar interrogations, spoke of Guadalcanal as the turning point—the changeover from offense to defense.

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TEMPERATE REGIONS: INFLUENCES ON MILITARY OPERATIONS, PART 1

COLONEL ROBERT H. CLEGG

EDITOR'S NOTE: This article is Part 1 of a two-part series on the temperate regions of the world and their environmental effects on military operations. It discusses the environmental uniqueness of temperate regions, the terrain and its military aspects, observation and fields of fire, obstacles, cover and concealment, and avenues of approach. Part 2, scheduled for the September–October 1993 issue, will discuss the effects of the weather and terrain on soldiers, equipment and facilities, and combat and support operations.

This series concludes Colonel Clegg's INFANTRY articles on the various regions of the world, which include "Environ-

mental Influences on Desert Operations" (May–June 1992); the two-part "Cold Regions: Environmental Influences on Military Operations," co-authored with Brigadier General Peter W. Clegg (July–August and September–October 1992); and the two-part "Tropical Regions: Influences on Military Operations" (March–April and May–June 1993).

This entire series of articles is intended to provide a complete reference that military instructors and leaders can use in preparing soldiers to train for or operate in any part of the world to which they may be deployed.

Although temperate regions make up only about five percent of the earth's land surface, they contain most of the world's population. With a dense settlement of 250 people per square mile in these regions, the probability of conflict is high (see map for 20th-century conflicts.) Since the environmental conditions in temperate regions are relatively mild, casualties directly attributable to environmental factors are not as striking as in other climatic areas. Nevertheless, the unique and

variable conditions in these regions have resulted in death and, more often, have seriously affected military plans and operations.

Most of western and central Europe fall into a temperate region, and the U.S. Army has participated in both World Wars in that area. For the 50 years since World War II, most U.S. Army training has continued to focus on central Europe. Even if the Army's future involvement in this part of the world

is only in a peacekeeping role, understanding the environment, the terrain and its military aspects—observation and fields of fire, obstacles, cover and concealment, and avenues of approach—will be vital to success.

Climatic and Meteorological Conditions

The temperate regions are generally those of the middle latitudes between 20 and 40 degrees north and south. In Europe, however, the temperate region extends as far as 60 degrees north. The climate of this region is characterized by long, hot summers and short, mild winters; and it has four distinct seasons.

The scientific classification of the temperate climate includes three major subclimate types: mediterranean, humid subtropical, and marine west coast.

The mediterranean subclimate has hot dry summers with clear skies and moist winters. Summer conditions are brought on by sinking air from subtropical high-pressure cells; this air is stable, which reduces cloud formation and precipitation. These cells migrate toward the equator in winter, allowing westerly winds to influence conditions that in summer are farther north. The westerly winds bring frontal weather patterns, which result in stormier conditions with precipitation and milder temperatures. In the higher elevations of the mountains along the rim of the Mediterranean Sea, the precipitation can be in the form of snow. This climate is also found in southern California (around San Francisco), central Chile, and southern Africa and Australia; it is mostly restricted to the western parts of continents.

The humid subtropical subclimate is known for its severe summer humidity. Summers are long and hot, and precipitation is abundant throughout the year. Winters are short (three months or less) and mild with little snow and with temperatures above freezing (except at higher altitudes).

The dominant controlling factor is latitude, the same as in the mediterranean subclimate. This control reflects changing solar duration and intensity because of the earth's inclination and its revolution around the sun—hence, the four seasons. The humid subtropical subclimate is found mostly in the eastern portions of continents. The largest such areas are the southeastern portions of North America and of China.

The marine west coast subclimate is found closer to the poles (40 degrees to 60 degrees latitude) and therefore has cooler temperatures. As its name implies, it is found on continental west coasts. Nearly all of western Europe has this relatively mild climate, as does North America's Pacific Northwest. At this higher latitude, westerly winds prevail, bringing ample year-round precipitation from the oceans. Cloudiness and fog are the norm.

Ocean currents are a major control on this subclimate. The huge circular currents of ocean water bring warm, moist air to the land on continental west coasts. Ocean water warms as it moves west parallel to the equator. Land masses channel this water toward the pole and then east, bringing extraordinarily warm air to high latitude areas. The Gulf Stream (North Atlantic Current) and the Japanese Current are responsible for mild conditions as far north as southern Alaska and Scan-

dinavia. Even the warm waters of the Gulf Stream move north above Norway into the Arctic Ocean and provide Russia its one ice-free port, Murmansk, above the Arctic Circle. It also gives western Europe its temperate climate. Western Europe is at about 50 degrees north latitude, the same as Canada, yet Canada's climate is cold.

Weather conditions in the temperate regions are characterized by significant and rapid change. Even within the four distinct seasons, the conditions vary considerably. The jet stream is a dominant control on this variability. It consists of high-speed winds (up to 300 knots) from the west at altitudes of about 30,000 feet. The oscillation of the jet stream, resulting from pressure differences to the north and south, allows colder air masses (bodies of air of similar temperature and humidity) to move south and warmer air masses to move north. These air masses converge and fight for control. Cold air from the poles meets warm air from the tropics at the "front," a battleground of conflicting air masses.

Conditions on either side of this line of contact are quite different from those along the front itself. Behind the cold front, temperatures are cool, pressure is high, skies are clear, and conditions are stable. Behind a warm front, temperatures are warmer, pressure lower, and skies partly cloudy and relatively stable, but storm conditions prevail at the front.

If a cold front encounters a warm air mass, the air is forced rapidly upward, resulting in heavy precipitation for a short time. If a warm front meets a cold air mass, the air rises more slowly, resulting in gentle rain lasting several days from a blanket of stratus clouds.

High-pressure areas to the south and north of the middle latitudes cause air to flow out of these high-pressure cells from west to east. This air flow moves fronts across oceans, where they pick up moisture and then onto continents where they dump the moisture. If the oscillation of the jet stream is great, air moves into the middle latitudes from the north and south, affecting local weather conditions. It is this variability in air flow that gives temperate regions their changing weather.

Alternating low-pressure and high-pressure systems, with their associated fronts, can have a major influence on military operations. Low-pressure means instability, involving wind and precipitation—two factors that restrict visibility and movement, as well as the soldiers' ability to fight.

Frontal storms threatened the Normandy landings in World War II. General Dwight Eisenhower recognized that the success of Operation OVERLORD depended on several weather conditions:

- Clear skies both day and night with a full moon to permit bombing and air cover for the amphibious assaults.
- Three miles of visibility from ship to shore to facilitate naval gunfire.
- Low tides to reveal obstacles on the beaches.
- Calm seas so the landing craft would not capsize and the soldiers would be less likely to get seasick.
- Light winds to clear away the fog.

The probability of finding such conditions in the English Channel is one in 50, and predicting them accurately is nearly impossible.

The desired time of attack was early June 1944. During the first five days of June, six low-pressure frontal systems passed over England and France. None of Eisenhower's criteria were met and he postponed the operation. But on 6 June it appeared that there would be a break in conditions between the advancing fronts. With more than 100,000 soldiers and hundreds of naval vessels and aircraft marshalled, Eisenhower took a chance that the period between the fronts would be long enough to allow the landing. He gave the green light. (The Germans, failing to forecast this short break, assumed the weather would preclude an assault.) After the initial landings, however, the fronts and their storms returned, making subsequent landings and the build-up of the beachhead slow and dangerous.

Despite fronts that constantly change weather and sometimes create extreme conditions, the temperate regions normally experience relatively mild temperatures. Although maximum daily highs often reach 100 degrees Fahrenheit, the summer average is between 75 and 85 degrees. The critical temperature for military operations is 72 degrees; above this temperature, soldiers and equipment begin to experience heat-related problems. Along coastal areas, temperatures are a few degrees cooler in summer because of the moderating effect of the oceans (water heats more slowly than land).

Winter temperatures average about 50 degrees Fahrenheit, which is where the danger of cold injuries begins to appear. This 50-degree average temperature has a range of nearly 40 degrees, which means it can get unseasonably warm but can also drop to near zero. Although the high and low temperatures are not extreme, adjusting to such wide ranges of temperature is difficult.

Humidity is pervasive in temperate climates, and precipitation distinguishes the three temperate subclimate types. Only

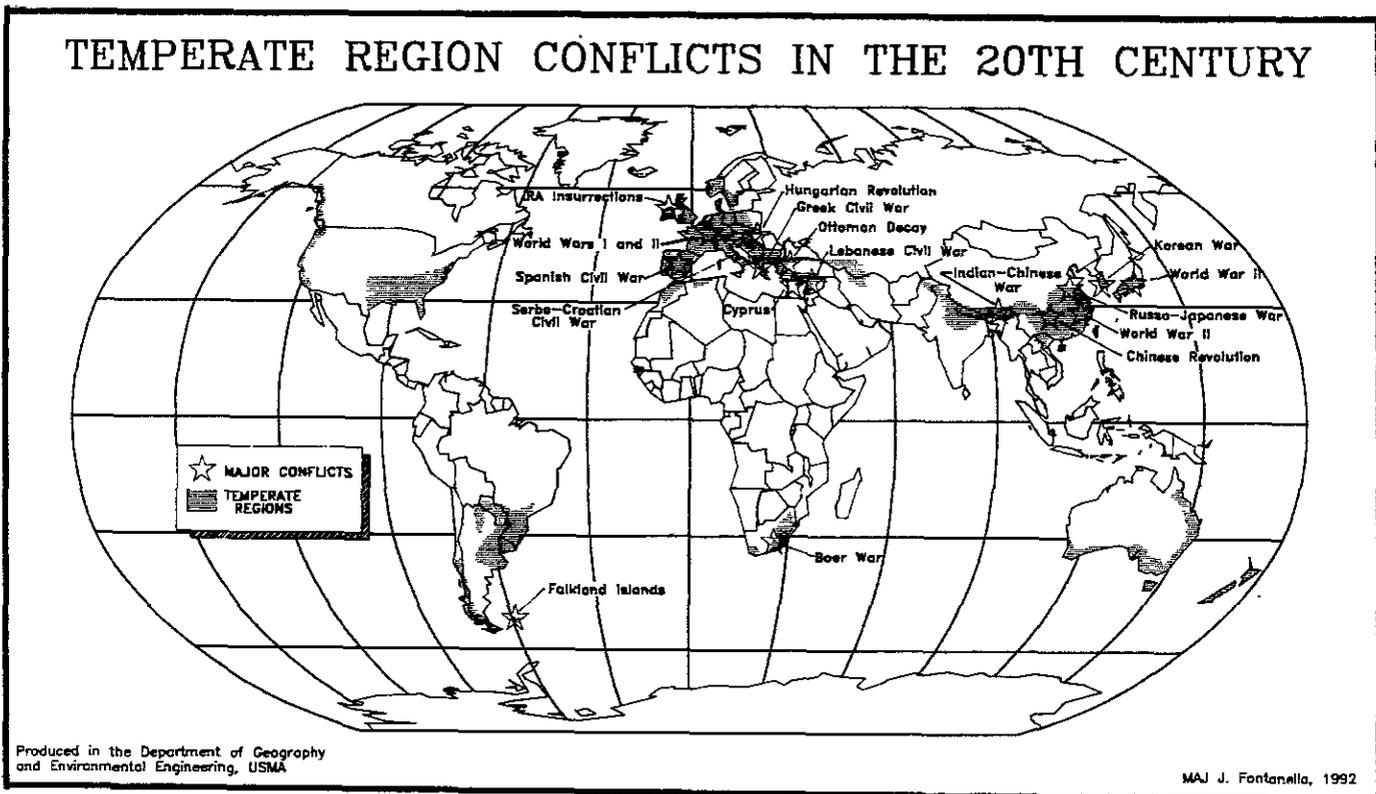
in the mediterranean subclimate is rainfall sparse; it characteristically receives its rain in winter from the frontal flows. Both the humid subtropical and the marine west coast subclimates get evenly distributed rainfall year-round.

The mediterranean subclimate gets between 15 and 25 inches of rain a year (coastal areas may receive slightly more). The other subclimates get an average annual rainfall of up to 60 inches, with up to 100 inches in some coastal locations.

Precipitation in the marine west coast areas is mostly frontal. Two air masses collide, forcing air to rise and cool and moisture to condense and fall. This more gradual process results in gentle rain of long duration. In winter, frontal lifting may produce snow when the Canadian or Siberian high-pressure cells force cold air southward. Even the rim of the Mediterranean Sea occasionally gets snow, as in the winter of 1991-92 when it snowed in Lebanon, Israel, and Jordan. The snow rarely accumulates, however, and melts quickly.

The humid subtropical subclimate is best known for its stifling humidity. Although temperatures are not extreme, a relative humidity of 60 to 90 percent all summer drastically reduces the comfort level. Wet-bulb temperature is therefore high (above 80 degrees), and soldiers must reduce their level of activity. The heat in this subclimate produces convection cells in which the hot air at the surface rises and cools. With such high humidity, only a slight drop in temperature produces condensation, while a faster drop can cause brief but intense precipitation or late-afternoon thunder and lightning storms.

In the coastal locations of the marine west coast subclimate, high humidity often produces thick fog (on one day out of three in such places as the Pacific Northwest and western Europe). This fog occurs when warm air moves over a cold surface, such as the ocean or snow-covered land. The warm air ab-



sorbs moisture and cools suddenly, allowing for condensation. This kind of fog can be thick and can persist for days. Inland fog is also common, appearing in the early morning when it is coolest. The dew point is easily reached because of high humidity, and fog collects in valleys and depressions. This fog usually burns off quickly but may persist until mid-day.

Temperate regions have variable pressure and winds. Fronts lead high-pressure air into low-pressure cyclones. As the front moves from the west, pressure drops, indicating poor weather. The pressure gradient between the high pressure behind the front and the lower pressure at the front determines the wind direction and speed. If the pressure is extremely low, the gradient will be steep and the wind strong. The direction of the wind is from the high pressure into the low pressure in a counterclockwise direction (west to east, then north) around the center of the low-pressure cyclone (or in the Southern hemisphere, clockwise, west to east, then south). Although prevailing winds are from the west in the middle latitudes, wind direction depends, of course, on location in relation to the center of the low-pressure cell and on terrain influences.

Fronts are also responsible for major storms in temperate regions. Other storms include hurricanes and tornadoes, which are extremely low-pressure cyclones. These storms can generate dangerous winds—over 74 miles per hour for hurricanes and 500 miles per hour for tornadoes. Their course often brings them into temperate areas of continental east coasts (southeast United States and southeast China). Tornadoes occur in spring, when advancing warm air meets the cold northern air. Although most tornadoes occur in the semi-arid regions of the midwestern United States, they also occur in the humid subtropical regions of the southern and southeastern United States. Thunderstorms also cause havoc: Flash flooding can occur, and lightning kills more than 100 Americans each year.

Terrain Analysis

The topography in temperate regions is as variable as the weather. Landscapes include mountainous areas, rolling hills, and flat coastal plains. Unique landscapes are associated with the underlying rock. For example, *karst* topography, found in Kentucky, parts of Germany, and Yugoslavia (among other places), occurs on top of limestone. The limestone dissolves easily with water from rain, which leaves the terrain pitted with sinkholes and underground caverns.

Mountains dominate in the mediterranean subclimate. Mountain ranges include the Pyrenees and Iberian Mountains in Spain, the Apennines and Alps in Italy, the Denaric-Grecian Mountains in Yugoslavia and Greece, the Taurus Range in Turkey, the Lebanon Mountains, and the Atlas Mountains of North Africa.

The mountains in these ranges are mostly folded and faulted terrain, but volcanic mountains are also common. These mountains have steep slopes that preclude off-road vehicle movement, and switch-back roads have been built over the centuries. Some volcanic areas are still quite active—Mount Etna in Sicily was active as recently as 1992. Mountains are generally between 1,000 and 4,000 feet high; isolated peaks are much higher—Mount Etna (10,902 feet), Mount Corno

in the Apennines (9,554 feet), Mount Mulhacen in the Spanish Sierra Nevadas (11,424 feet), Arin Ayachin in the Atlas Mountains of Morocco (12,261 feet), and Mount Olimbos in Greece (9,570 feet).

Mountains are also found in the marine west coast areas of Oregon and Washington and north into British Columbia and Alaska. The Cascade Range of this area is volcanic in origin, formed as a result of tectonic plate activity. Violent eruptions, such as those of Mount Saint Helens in 1980, occur occasionally along this coastal area. These mountains are quite steep, denying trafficability. The Cascade and Coastal Ranges also include steeply folded and faulted mountains.

In the humid subtropical areas, mountains are also dominant features. Southeast China is much more mountainous than the U.S. southeast. In both locations, the mountains are about 1,000 to 5,000 feet with peaks over 7,000 feet. Although the Appalachian chain does not have the area of the mountains of China, they are still formidable to units moving cross-country.

Hilly topography characterizes much of marine west coast Europe north of the Alps. These hills, from 500 to slightly over 1,000 feet in elevation, are far less steep than the mountains of the mediterranean region, although in selected areas they are effective obstacles to cross-country trafficability. The foothills of the Piedmont area of the Appalachians also fit this description. *Escarpmnts*, *cuestas*, *horsts* and *grabens* are unique topographic features that have linear ridges with steep cliffs.

The flat plains of the temperate regions are associated with coastal areas or the floodplains of major rivers. There is little flat land in mediterranean subclimate areas. Coastal flats rarely extend more than 10 miles inland. The floodplains in this subclimate area are not large except for the Po River Valley of northern Italy, which has a floodplain that is about 60 miles across. In the marine west coast areas of western France, Belgium, the Netherlands, and northern Germany are vast flat expanses extending more than 100 miles inland. The Rhine River in Germany has cut a wide floodplain tens of miles wide in some places and empties across the lowlands of Holland.

In the humid subtropical southeastern United States, a coastal plain along the Atlantic coast is 200 miles wide in some places. In South America, the Parana River basin is flat, covering the entire humid subtropical area of the continent. In India, the Ganges River has a flat floodplain more than 150 miles wide.

Surface cover also varies in temperate regions. It includes rock and soil, vegetation, drainage features, and man-made features. In the mediterranean areas, the soil is thin and very rocky. The thin soil has a crumbly texture and is susceptible to erosion. In the dry summer, the soil hardens into a compact surface; it lacks organic matter and has more of a sandy texture, but can soon turn into mud in the wet winter. In World War II, U.S. units bogged down in the quagmires of the Apennines in Italy.

The rock structure of the marine west coast areas also varies. In the Pacific Northwest, igneous lava rocks are more common than in Europe, where layers of sandstone, shale, and other sedimentary rocks predominate. The soils are derived

from the rock material and organic matter from coniferous trees and agricultural debris. The soil is deep (up to several feet in some places) with a high clay content which can become muddy when wet. In coastal areas, inundated soils with high organic content produce peat bogs.

In the humid subtropical areas, rocks of igneous and metamorphic origin dominate the high ground while softer sedimentary material covers the valleys and plains. The soils are either dark and thick (as in northern Argentina and Uruguay), or reddish, fairly deep, and acidic as in China and southeastern North America. Given rain, mud is a concern in these areas as well.

Vegetation is also highly varied. In the mediterranean subclimate regions, woodland and shrubs dominate with areas of open grass and scattered stubby trees. Tree spacing is fairly wide, and trunk diameters are generally small. Grains and vegetables are grown along the coasts and in the river valleys. Cacti are also common in many mediterranean areas. Pasture for sheep and goats is more common than pasture for cows.

In the marine west coast subclimate areas, forests and agriculture exist together. The Pacific Northwest is famous for its wide expanses of coniferous forests with a variety of evergreen species. The trees can be closely spaced, and some forests have extremely tall and large-diameter trees, such as the redwoods in California. Underbrush is reduced in the forests of closely spaced conifers, especially in Europe, where forested acreage is also reduced. The woods that do exist are intensely managed with regular trimming of branches and removal of underbrush. Softwoods make up most of the stands, but there are also selected hardwoods and deciduous species. The trees are grown especially close together—only a few feet apart—and are selectively harvested.

Trails through the larger stands of trees (100 square miles) become quagmires when wet. The interconnecting trails are wide enough for only one vehicle in the deep forest, and units need guides, trail markings, or prior reconnaissance to avoid getting lost.

The land that is not covered by woods is cultivated. Grains, vegetables, and pasture cover vast areas. These fields also become quagmires when wet because the soil has a clay texture, a high organic content, and considerable depth.

In Europe grapevines cover vast areas, often growing in rows on steep slopes, with wire strung from post to post to support them. The spaces between them are cleared but not wide enough for military vehicles, and movement on foot is extremely tiring.

In the humid subtropical areas, deciduous forests prevail. In the growing season, underbrush is thick with tall, thorny bushes. Intermixed with the broadleaf oaks, tulip trees, and maples, are needleleaf evergreen pines. Tree spacing can be quite close (within a couple of feet) with saplings even closer. In more mature forests, the trunks are up to several feet in diameter. In winter the leaves fall from the branches and shrubs, providing better visibility and access.

Agriculture is quite extensive in this subclimate type. Rice in China and wheat and other grains in South America are

cash crops. In the southeastern United States, vegetables are grown in abundance, and orchards and specialty crops such as tobacco, cotton, soybeans, and peanuts are prevalent.

Abundant precipitation in the temperate regions leads to fine-textured drainage. The mountains and hills are cut by numerous streams that flow into larger rivers. In the mediterranean areas, the mountains have been heavily eroded by stream action. Channels are shallow (ten feet or less) and narrow (25 feet), and currents are swift only after winter rains. Streams compartmentalize the terrain, especially in Italy where rivers generally cut across the "boot" from the central spine of mountains. Flood plains are narrow, except for especially large rivers such as the Po, the Guadalquivir in Spain, the Sava in Yugoslavia, and the lower Rhone in France. Only the Po and the Rhone have significant deltas. Karst topography, previously mentioned, is a product of internal drainage, and drainage is extensive in the marine west coast and humid subtropical areas as well.

In western Europe, the Rhine River basin includes thousands of tributaries, some of which are major rivers (Moselle, Ruhr, Neckar, Main). The Seine and Loire in France and the Elbe in northern Germany are major basins as well, with thousands of smaller tributaries.

The humid subtropical areas also have major basins such as the Parana in Brazil, Paraguay, and Argentina, which is partially fed by melting snow from the Andes Mountains. Flat marshes are extensive in the river's floodplain, especially in Paraguay. Three of the world's largest rivers, the Ganges in northern India, the Yangtze in China, and the Mississippi in the United States, derive much of their flow from the humid subtropical rainfall. These rivers are major geographical features that divide and drain vast areas. Their flood plains are all more than 100 miles wide; they have major deltas, and meander over large areas. Marshes and swamps with standing water are also extensive in the coastal regions of these rivers.

With the dense population in the temperate region, the landscape is dotted with numerous villages and towns. In much of Germany, for example, villages are seldom more than two miles apart. Major cities with populations of well over a million are numerous (Shanghai, Canton, Rome, Milan, Madrid, Athens, Paris, Munich, Frankfurt, Hamburg, Berlin, London, Buenos Aires, Montevideo, Atlanta, Seattle, San Francisco). Thus numerous man-made features complicate the terrain. Unique features such as dikes in Holland and the hedgerows in the Normandy area of France also restrict movement and afford good opportunities for defense.

Military Aspects of Terrain

The weather and terrain of the temperate regions influence the conduct of combat operations. Although it is always necessary to evaluate the military aspects of terrain for the specific circumstances and locations at hand, it is of value here to generalize about them:

Observation and Fields of Fire. Topography, surface cover, and weather all influence observation and fields of fire. In the temperate region, there is usually enough high ground

to provide excellent observation and fields of fire into valleys and across flat coastal plains, but terrain masking does set limits. Drainage channels provide a significant amount of dead space that allows small units and even vehicles to advance undetected. Helicopters flying nap-of-the-earth can evade observation and be well hidden behind hills and in draws. The flatter terrain of the marine west coast areas often allows for unobstructed views as far as the eye can see, however.

The surface cover of the temperate regions presents problems with observation and fields of fire, since both vegetation and man-made features abound. In the sparse woodlands and shrubs of the mediterranean areas, vegetation is a lesser problem because of the wide spaces between the small stunted trees. Such man-made features as cities and villages restrict observation, maneuver, and fields of fire. Vegetation in both the marine west coast and the humid subtropical subclimates consists of needleleaf evergreen and deciduous forests, severely limiting observation except in the vast areas that are either under cultivation or fallow.

In winter, with a dusting of snow and with the deciduous trees leafless, observation is better. Man-made features again cause obstruction. The weather regularly limits observation, mostly in the marine west coast area where fog persists and rains are frequent. In the mediterranean areas, this problem is diminished and applies only to the short winter season. Fog and rain also reduce visibility in humid subtropical areas but to a lesser degree. The smog associated with cities limits observation significantly; this is a major consideration for the temperate regions because there are so many large cities. The degree of illumination at night is key to observation, as are seasonal changes in the amount of daylight. Winter offers only about nine hours of light, and summer about 15 hours.

Key Terrain. The high ground is invariably key terrain, because it dominates the local area. Mountain passes can be key terrain, as can river-crossing sites and such man-made features as airfields, bridges, rail hubs, or major bypass roads. From a strategic perspective, however, key terrain is more likely to be a cultural and political center, or a symbol of national resolve. The terrain around Verdun in World War I serves as an example of terrain that is key, both tactically and strategically.

The small city of Verdun is on the Meuse River in the northeast of France; to the north is Belgium and eastern Germany. The terrain around the city is high ground with steep slopes to the east into the Moselle River floodplain and a gentler decline to the west leading directly to Paris. The French had gone to great expense to fortify Verdun as part of the Maginot Line. The city was an old strongpoint that had stood as a symbol of French invincibility since the previous century; in February 1916 the Germans decided to challenge that invincibility.

The topography around Verdun consists of a series of five cuestas—ridges with steep faces on one side and gentle slopes on the other—running north to south, compartmenting the area. Rivers or streams flow north at the bottom of the steep cliffs, and tributaries cut deep gullies and ravines from the ridge line east and west into clay soil. The area around Verdun itself

encompasses the easternmost cuesta. The last scarp (line of cliffs) descends to the Woivre Plain and the Meuse River. The top of the Douaumont Plateau, where there are small villages, is only about 1,000 feet in elevation but still about 600 feet higher than the lowlands. Vegetation at the time included forest on the steeper slopes and the plateau, and cleared agricultural fields elsewhere. The battle would center on Fort Douaumont, located on the northern tip of the cuesta.

The Germans were frustrated by a sudden change in the weather. Their plan included massive use of artillery, and a snow storm that raged across the area reduced visibility and precluded artillery forward observation. Deep snowdrifts in the valleys prevented the forward movement of German artillery and ammunition. The French were able to maneuver and met the attacking German infantry in fierce hand-to-hand combat. The weather changed again, just as quickly, clearing on 21 February. This allowed the Germans to marshal 2,000 artillery pieces and obliterate the French front lines. The French, however, had anticipated the massive barrage and had pulled most of their soldiers out of the frontline trenches, leaving only well-protected machinegun crews, most of whom survived. The Germans, always proficient tacticians, sent only patrols up the slopes of the plateau to meet their fate from the machinegun crews. They gained the initiative but little ground.

Spring rains brought mud that reduced action on the front to artillery duels. Trenches became stagnant pools, and vehicles bogged down. Relentless probes and frontal attacks gained little. The attacks shifted to the next ridge to the west where battles for Dead Man Hill, Hill 304, and Goose Crest became famous. The continuous artillery barrage devastated the land and destroyed the trees which had previously concealed French movements and supply trains, thereby allowing better observation for German planes. The battle for the ridge line, the high ground, continued all summer, again with little progress by either side.

Verdun was the epic battle of attrition. General Henri Philippe Pétain planned to launch a counterattack to rid the region of the Germans. Now into October 1916, fog hid the terrain, and three weeks of rain left a thick mud that delayed the French. On 21 October the weather turned cold and clear, allowing for a two-day artillery preparation. On 24 October conditions again changed, warming and producing a thick fog that concealed the attacking French infantry. Their success was immediate, but it was not until December that they regained all the ground they had lost.

For ten months, the Germans had tried to take the Verdun cuesta and failed. The cost was more than one million casualties. The French had held, and their morale and esprit were lifted. The war then shifted west to the Somme River.

Obstacles. Terrain reinforcement always improves combat operations, but natural obstacles are abundant in temperate regions. Mountainous areas of the mediterranean and humid subtropical subclimate areas, and numerous streams and rivers over the entire temperate region, present formidable obstacles. During "The Long March" of the Chinese communists, Mao Tse-Tung and Chou En-Lai and their followers crossed



This 10th Mountain Division soldier takes advantage of the excellent fields of fire and observation near Vadetta, Italy, in March 1945.

18 mountain ranges and 24 rivers. Their initial strength of 100,000 was reduced to less than 20,000 after 368 days and 6,000 miles on foot.

Such terrain as compartmented *cuesta* and karst topography hampers troop movement. Coastal swamps, tidal basins, and towns, villages, and cities all present significant obstacles to military operations. Each of these types of obstacles cost the lives of numerous U.S. soldiers in World War II as they moved from North Africa to Sicily and to the Italian Alps. The Germans, under the able command of Field Marshal Albert Kesselring, used the mountainous terrain, the rivers, and the villages to great advantage in a well-executed delaying operation.

In Sicily, General George S. Patton, Jr., fought not only the Germans but also the terrain. The mountains of Sicily are extremely steep, and the roads permitted only one vehicle at a time to pass. Tunnels and bridges were numerous along the route to Messina, and each was well-defended by the Germans. Before yielding, they blew each tunnel or bridge, enabling a few skilled soldiers to hold up the entire 7th U.S. Army. In attempting to outflank German strongholds, U.S. soldiers had to climb the hills in 90-degree temperatures with little water.

As Patton approached Troina, such natural defensive positions and obstacles were everywhere. The town was on a high cliff that dominated all approaches. Ridges and peaks surrounding the town blocked access. Deep ravines that could have provided concealed routes had been mined by the Germans. The U.S. plan had called for a regiment to take the town, but it took a division plus a regiment to do the job.

The Americans also displayed skill in using terrain as an obstacle. At Salerno, Darby's Rangers, outnumbered eight to one, held Chiunzi Pass. From strongpoint positions in stone farmhouses they used this key high ground to adjust mortar, artillery, and naval gun fire.

Later in the war, as the Americans moved north toward Naples, the Germans used the rugged terrain of the Sorrento Peninsula to full advantage. Over 25 miles of twisting roads lay 25 blown bridges. As the Americans penetrated deeper into the mountains of the Apennines with snow-topped peaks

of 2,500 to 6,000 feet, horses and mules were enlisted to provide transport. The terrain was such an obstacle that elements of the 3d Infantry Division attacking Monte la Defensa took as much as six hours to get casualties down the mountain. The costly battles of Monte Cassino highlighted the obstacle value of mountains. British Prime Minister Winston Churchill questioned General Harold R.L.G. Alexander about wearing out five or six divisions "in those jaws." Later in the campaign, U.S. forces lost 2,731 soldiers taking Noticelli and Monte Altuzzo in the drive on Bologna.

Two river-crossing operations in the Italian Campaign are excellent examples of this type of obstacle. In early October 1943, the 5th U.S. Army had to cross the Volturno River. VI Corps faced steep hills with narrow, winding roads and many bridges and culverts held by the Germans on the north side of the river. The Corps had to cross flat, open terrain flooded by the early winter rains. In the British X Corps area, the river was up to 300 feet wide and 11 feet deep.

The U.S. 45th Division moved northwest into the valley of the Calore River (a tributary of the Volturno); the 3d and 34th Divisions to the west attacked at the junction of the two rivers. The Germans, occupying the high ground and with clear observation, pounded the attacking divisions with mortar, artillery, and small arms fire during the crossing and inflicted heavy casualties.

At the Rapido River the Germans again held the high ground on the northern side. They had cleared all vegetation to improve observation and fields of fire, denying concealment to the attackers in the one-mile floodplain. Having control of upstream dams, they also flooded the flat land. To further complicate any crossing, they sowed mines in the marsh. The river itself was 25 to 50 feet wide; its banks were about four feet high with water depth up to ten feet. The flow was swift and the water was icy cold for the crossing. To reach the selected crossing site, the soldiers had to carry rafts two miles at night. Several disastrous attempts to cross resulted in more than 1,000 casualties in the 36th Division.

Throughout the Italian Campaign, the Germans used natural terrain obstacles to great advantage. At each opportunity,

they reinforced the terrain with wire, mines, and trenches. Other man-made obstacles can be emplaced or created by blowing structures or rock cliffs. Rubble in urban areas can close streets, and a valley can be blocked when demolitions collapse its walls.

The defensive systems on the western front in World War I and at Normandy in World War II serve as excellent examples of man-made obstacles that reinforce the terrain. The Meuse-Argonne Campaign of World War I was the final grand assault, launched on 26 September 1918. Twelve Allied armies of six million men were to attack German defenses, which consisted of a system of six trench lines 12 miles deep. General John J. Pershing commanded the U.S. operations in the tangled Argonne Forest sector, which bristled with barbed wire, minefields, and mutually supporting machinegun strongpoints. The French and the British had chosen a date before the autumn rains, realizing full well that the battlefield would be engulfed in mud, a natural obstacle. Artillery craters provided some cover and concealment but also retarded movement. Artillery fires had long since removed the trees, and soldiers advanced across open terrain into the German wire and minefields. The trenches provided temporary cover and concealment but also restricted movement. In the 47-day campaign, Pershing lost 26,227 Americans killed and 95,788 wounded.

The beaches of Normandy where 6,000 soldiers died were also layered with obstacles. Posts with mines at their tips were placed in the water so they would be concealed at high tide. Approaching landing craft would strike stakes and detonate the mines. Rail wedges laced with mines forced the landing craft helplessly up and out of the water, and steel gates blocked access to the beach. On the beach were layers of wire, concrete dragons' teeth, and mines. The beaches of Normandy were narrow with little depth, and the high ground and cliffs overlooked the beaches. Here, German tank ditches and spikes, as well as machinegun strongpoints, dominated the beach approaches.

Terrain reinforcement measures need not be sophisticated. In wooded areas where trails are narrow, an abatis or just a few cut trees across the trail will delay movement. All such obstacles should be covered by fire to increase their effectiveness.

Immediately after overcoming the obstacles of the Normandy beachhead, the U.S. First Army was confronted with the thick hedgerows that had been cultivated over the centuries to separate individual fields. These sturdy dirt embankments are normally one to four feet thick and between three and 15 feet high. Dense vegetation consisting of trees, vines, and brush encompass the entire thickness of the mounds and double their height. There is no pattern to these fields, which are only 200 by 400 yards and irregularly shaped.

This hedgerow country is obviously extremely compartmented, and the defender has excellent cover and concealment. The Germans were well aware of this favorable terrain obstacle and used the hedgerows to great advantage, delaying the U.S. advance for weeks. At opposite corners of each field, the Germans placed machineguns that pinned down the U.S. infan-

try. Mortars then caused 75 percent of the U.S. casualties.

Snipers were also important to the German defense, as were booby traps and mines. Using infantry alone to attack through the brush into the kill zone of the open field was foolhardy; integrated combat teams of tanks, engineers, and infantry were able to make progress with fewer casualties. Demolitions were emplaced to blow openings in the hedgerows to allow the tanks to advance. Although this seems simple enough, over a distance of one-and-one-half miles a company faced 34 separate hedgerows. Blowing openings in all of them would have required 17 tons of explosives per company, an overwhelming logistical problem. Instead, the tanks were modified with cutters on the front that would allow them to break through the thick vegetation. Attacks were still costly. On 5 July 1944 the 83d Division suffered 2,100 casualties while advancing only 1,600 yards.

Combined arms tactics were refined to overcome both the hedgerows and the Germans. Nonetheless, First Army suffered 100,000 casualties while inflicting a similar number on the Germans. The 29th Infantry Division suffered nearly 10,000 casualties, and rifle companies throughout the Army were reduced to half strength. The greatest shortcoming in the campaign was ignorance of the hedgerow country; combat leaders had no understanding of the nature of this obstacle.

Cover and Concealment

Although cover and concealment are site specific, some generalizations about the temperate regions provide an estimate of the availability of cover and concealment. In urban areas and smaller settlements, the structures offer cover. Basements and sewers provide good cover from artillery and air attack, but collapsing buildings can trap and kill soldiers.

During World War II much fighting occurred in the towns and cities throughout Europe. Many were leveled by artillery and bombing. The fighting was especially difficult because concealment was so good in the urban terrain.

Vegetation provides concealment as well as cover from small arms fire. Thick trees stop bullets and absorb fragments, and they may be cut and used to build fortifications when in the defense.

In the mountains, rocks and deeply cut gullies provide cover, and in karst regions, caves provide cover from both indirect and direct fire. In the mediterranean areas, stone farmhouses and walls protect soldiers from direct fire.

Weather and terrain can provide concealment as well. Fog, rain, snow, and low clouds conceal movement and positions from both ground and aerial observation, although thermal infrared sensors and radar may reveal targets, if the weather is not so bad as to degrade observation. The evacuation of the British Army of 338,000 men from Dunkirk in late May 1940 serves as an example of how the concealing effects of weather allow one side an advantage and also how darkness and smoke can be used to conceal operations.

On 26 May the British were under heavy pressure from Luftwaffe bombing, but the quickly changing conditions brought deteriorating weather with heavy rains. The Germans delayed their final panzer attack, but conditions were also bad for the

evacuation. A low-pressure Atlantic front system brought on stormy conditions and reduced the ceiling to 300 feet. A blocking Azores high-pressure system kept an oncoming storm to the north on 28 May, and although the surf was still high, 17,804 soldiers escaped. On 29 May concealing conditions precluded Luftwaffe operations until afternoon when the weather cleared. The German air force then attacked, inflicting great damage and many casualties. On 30 May mist and smoke prevented air operations and concealed the evacuation of another 53,000 soldiers, but on 31 May the clear high pressure system from the Azores prevailed, allowing three devastating air attacks on the ships. Because concealment from the weather was lost, the British used darkness instead until 4 June when the last boat left the continent.

The World War I counteroffensive by the French at Verdun used fog to advantage, and in World War II the Germans prepared for the Battle of the Bulge under the concealment of fog, mist, and low clouds. These examples demonstrate the highly variable frontal weather conditions that are typical of temperate regions and the prevalence of concealing weather in the marine west coast subclimate areas of Europe.

Surface cover and topography also provide concealment. The forests of the marine west coast and humid subtropical climates provide excellent ground concealment and overhead concealment, but the forests of Europe, with so little underbrush, may not provide the same degree of ground concealment. In the humid subtropical areas, dense shrubs and underbrush provide excellent ground concealment. The seasonal nature of deciduous vegetation markedly changes the concealment effect. When the vegetation is in full leaf, concealment is excellent, but in the winter dry seasons, the leaves have fallen, reducing both ground and overhead concealment, and making ground movement noisy.

Standard issue camouflage and battle dress uniforms are very effective in temperate regions. The sparse vegetation of the mediterranean subclimate provides limited ground or overhead concealment, but man-made features in both rural and urban settings provide excellent hide positions from advancing enemy soldiers and from aircraft. The densely settled areas of the temperate regions make this a major consideration.

The variable topography of the temperate regions provides ample terrain masking. Aircraft that are flying nap-of-the-earth are concealed from observation. The folded mountainous areas and the parallel ridge lines of *cuestas* conceal men and equipment in adjoining valleys. The steep mountain terrain and large rocks of the mediterranean subclimate provide excellent cover, as the Germans expertly demonstrated in Italy during World War II.

Avenues of Approach

Terrain masking also dictates avenues of approach. Folded mountains in the humid subtropical areas may provide the best example. In the southeast and eastern parts of the United States, natural avenues exist where the Appalachian Mountains form distinct parallel ridges extending for miles, generally from northeast to southwest. This is compartmented terrain. Movement in the valleys, parallel to ridge lines, is rapid

while moving across compartments, up and down ridges, is slow and exhausting. These folds create a relatively narrow valley (such as the Shenandoah) usually with a river and high, steep ridges (Blue Ridge). General Robert E. Lee's Army of Northern Virginia repeatedly used this protected avenue during the Civil War to move north into the border states to threaten Washington and bring the war to the north. This same corridor allowed Lee to escape each time.

Estuaries and their peninsulas are also avenues of approach. The U.S. east coast has several major rivers that drain into the Atlantic, forming estuaries or bays that protrude inland for more than 100 miles in some cases. During the Civil War, the Union forces under General George McClellan used the estuary of the James River to advance 70 miles to Richmond, the Confederate capital in 1861. If he had been more aggressive, the Peninsular Campaign could have ended the war early.

General Thomas J. Jackson, using the valley and ridge topography of the Shenandoah, threatened Washington while Lee held the Union forces at bay just outside of Richmond. McClellan could not get the additional forces he thought he needed to finish the campaign because of Jackson's threat to Washington. Lee then ordered Jackson south, down the Shenandoah, to reinforce Richmond. As a result, the Union forces were pushed back, finally gave up, and withdrew north.

Rivers provide avenues of approach in the temperate regions. The Rhine River floodplain is extremely wide at its terminus in Holland and northern Belgium. From south of Liege, Belgium, to the French border is hilly terrain. The Germans' von Schlieffen Plan in World Wars I and II was to attack along this high-speed avenue of approach to penetrate deep into these two countries and then turn south to Paris. The avenue follows the terrain and is relatively flat along the entire route. The only concerns are the many rivers, which flow generally parallel but still require numerous crossings. The Germans bypassed the difficult higher terrain (which was defended) and were initially successful.

In the rivers and mountains of Italy, compartmented terrain limited the northward advance of the Allies in World War II, making an advance slow and costly. It is important to pay attention to flank security when moving through natural avenues of approach (usually the low land) and to control the high ground, the parallel ridges, when proceeding along the valley or river.

Fortunately, temperate regions do not have the extremes of cold, heat, wetness, and disease that so severely affect soldiers, their weapons and equipment, and support operations. The major problems here are caused by the rapid changes that can occur in weather conditions. The effects of these changes will be covered in the second part of this article.

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TRAINING NOTES



Training Principles and Practices For Company Level Leaders

CAPTAIN JOHN L. POTHIN

Training units for war is the principal charge for leaders in a peacetime army. The age-old slogan that "Training is everything, and everything is training" communicates the significance of any leader's daily challenge. Yet even with the recent emergence of Field Manual 25-101, *Battle Focused Training*, small-unit leaders still express dissatisfaction with their ability to control and resource their training plans. In fact, many junior officers naively assume they will train their platoons or companies without any guidance from their commanders.

Where have we gone wrong? Are we reading the training doctrine? If so, are we understanding it?

Junior leaders enter the Army with little or no theoretical frame of reference for training. Many leaders eventually develop a training philosophy that grounds much of their experience in a set of principles; others simply practice habits that have proved successful in previous assignments. It is important for leaders to understand the principles of training. Such a framework of principles will make the habit deliberate and give the organization a common understanding of a very comprehensive plan.

Here is a selection of training principles and some specific comments about

the training process that may be helpful to those of you who are also trying to make the doctrine work in your units:

Train to standard, not to time; retrain as required. Training to standard instead of to time means we don't clean weapons in the company area for three hours just because that is the time the training schedule has provided for the task. We perform the task to a standard that is universally understood in the unit. And if it is not completed to the designated standard, we retrain until it is completed to that standard.

Practice. A unit, crew, or individual soldier must talk through the task, *crawl* through the task, *walk* through the task, and then *run* through the task. This simple process must be routine. It applies at every level in the organization, from individual soldier to the staff or line unit.

Use the mission training plan (MTP) as the standard, and evaluate all training. Collective performance standards in the MTP clearly identify the standards that units must work to achieve. These non-negotiable standards are based upon the experience of units in combat. While some may debate the degree to which they apply in every situation, they do give units a common standard for evaluation.

Use situational training exercises

(STXs), lane training to create realistic combat conditions for training, and multiple iterations of each lane. This training requires that leaders at every level of the organization use their heads and prepare challenging scenarios that reflect the full range of conditions that might exist while executing their contingency plans.

Develop and use systems that give soldiers feedback. This principle is a subset of the fourth principle. Feedback to the individual soldier comes from employing MILES to the greatest extent possible. Targeting devices should always give feedback, whether it is a \$3 million computerized range complex or a set of balloon-filled dummies on an ambush lane. Don't wait for Range Control to hand you the ideas. Develop systems that accomplish the mission.

Incorporate "Fall-out One and Two" drills into every exercise. Units are seldom able to operate with 100 percent of their authorized personnel. Leaders rarely have the luxury of putting their best soldiers in every operation. The logical training mandate requires us to pull key personnel out of operations at inconvenient times. Not only will this test a unit's ability to function, but it will also prepare units for the mental and psycho-

logical conditions they will inevitably face in time of war.

Squad leaders train their squads. This seemingly obvious training maxim is probably the most often violated. Somehow the notion of efficiency or incompetence spawned the "committee group" training philosophy. Leaders must give the squad leader the time and assets he needs to train his squad and must make sure he is prepared to conduct the training to standard.

Training time on the schedule is either a "clean hole" or a "dirty hole." The battalion or company commander may have time blocked out on the training schedule for a collective task, but this does not mean the platoon leader or squad leader loses time. This is a dirty hole. For example, a commander may specify that a unit perform deliberate attack as a company during a given training day. The platoon leader must then be smart enough to assess the platoon's strengths and weaknesses and volunteer to perform the appropriate task for the platoon. The 1st Platoon might need work on the tasks of Assault and Move Tactically, while 2d Platoon might need additional work on the task of Defend. At squad level much of the constructive training time comes from the smart squad leader who knows how to take advantage of dirty-hole time. A clean hole is open time for the leader to plan training related to his unit's mission essential task list (METL).

As clean and dirty holes fill at every level, the concept of multi-echelon training naturally occurs. In essence, soldiers, crews, staffs, and units at every level are training on tasks appropriate to their levels. But a unit will not do this collectively at every level all the time. Occasionally, a unit will get external evaluators to check the battalion, or even brigade, systems that operate in concert. A more common case is a battalion whose staff conducts staff planning while companies conduct squad and platoon lane training, resupplied by internal support assets operating with preplanned support STXs for resupply, casualty evacuation, and medical and maintenance services.

Preparation for training must be a

training prerequisite. This seemingly obvious statement is violated more often than any of us would care to admit. Training preparation requires priority from the commander. The training schedule must include preparation time. Objectives must be defined, tasks reviewed, and scenarios resourced. This is time-consuming but well worth the effort.

At this point, it may be useful to review the training process prescribed in FM 25-101 and shown here. This management cycle must not be perceived in the vacuum of a particular squad, platoon, or company. These leaders all work for superiors in the chain of command. In fact, their task is to ensure that this process remains pure at their level while they work within the parameters established at higher levels. A unit METL is derived from the METL of the higher commander, and the training and organizational assessments at the lowest level serve as the basis for the assessments at the highest level. A unit's long-range plan must account for the divisional training cycles that serve to control and regulate training resources. Short-range and near-term plans are based upon the plans developed at brigade, battalion, and company levels. This entire cycle serves as a common management tool for commanders at every level. It is not an arbitrary system designed to usurp a junior leader's time; in fact, it helps him use the limited time he has to the best advantage.

Trainers and leaders must be able to understand the intent and procedures of evaluation and assessment processes so they can conduct both properly.

Every training event must undergo some form of evaluation. Leaders evaluate everything, from the unit's ability to march in parade to the staff estimate and decision making processes commanders use during operations at a combat training center. Evaluations come in every shape and size, including formal after-action reports (AARs) or simply on-the-spot corrections between a staff sergeant and a private learning to clear a trench. Evaluations force us to think about our actions and take the necessary steps to refine procedures and thought processes, or to practice important skills.

An effective unit evaluates individual,

crew, collective, and leader tasks during every collective training event. The MTP prescribes tasks, conditions, and standards for almost all collective tasks. Additionally, it provides task integration matrices that list the applicable tasks for an event at each level of training. These matrices serve as points of reference when leaders are preparing STX task lists. Leaders must take a personal interest in planning both formal and informal evaluations during training events.

Specifically, the after-action review is a training event that will be done properly at all levels only with command emphasis and leader training. FM 25-101 presents some excellent ideas for preparing and conducting AARs. In addition, AARs must be conducted at every level from squad to company or battalion task force. At the squad and platoon level, AARs work well when conducted on the objective immediately following a training action. Commanders must build time for this AAR process into training events. Leaders should take some time to organize their thoughts so they not only talk about collective action but also elicit feedback on the individual, leader, and crew tasks performed. This information will help focus unit organizational and training assessments.

An organizational assessment is a detailed picture of a unit's readiness at any given time. Conducting an organizational assessment is a complex management process, to say the least. Nonetheless, commanders at every level must build a system or make this procedure routine. A unit status report is a formal assessment system or management tool at Department of the Army level. At the company level, a commander must create a forum for information gathering. Collecting written AAR comments from units after field operations is a start, but there must also be more routine discussions in which company leaders share evaluations on performance at the individual, crew, collective, and leader task levels.

A training meeting each week is the logical solution. A leader can structure this meeting by adding the weekly training assessment to the agenda. Again, commanders can make the assessment

a priority; the logical fallout will be the discussion of the training process (or lack of it) that led to the platoon or squad training results. If a leader can create this dialogue in a training meeting, he will make great strides toward improving his unit training program. He should talk about the types of objectives he identified and whether they were realistic. Did the squad leaders have a common understanding of how to conduct bunker or trench drills? What could we do as leaders during a tactical exercise without troops (TEWT) to make unit training more productive? The training program assessment will stimulate thinking that can then be reflected in future plans.

While a large part of every unit training plan should come from the assessment process, it may also be appropriate to discuss the effect of the commander's guidance and the role of the training meeting in determining a unit training program.

Many young leaders are frustrated by "required" training. In fact, any directed training event can sour a unit's morale unless the leaders show that they wholeheartedly support it. But training guidance is a simple fact of life that leaders must understand and accept. Commanders at every level review assess-

ments and build training programs on the basis of the assessments and sustainment training imperatives. A company commander can expect annual, quarterly, and semi-annual guidance from the division, brigade, and battalion commanders. Each of these guidance documents provides some direction and serves as the basis for training resources in units throughout the division. More important, they establish training priorities. If a company commander is lucky, his battalion commander will provide weekly training event priorities to help him, but he must still build a plan and prioritize his own tasks. A company commander or a platoon leader must also do this at his level and if he briefs his boss in advance he will be off to a good start.

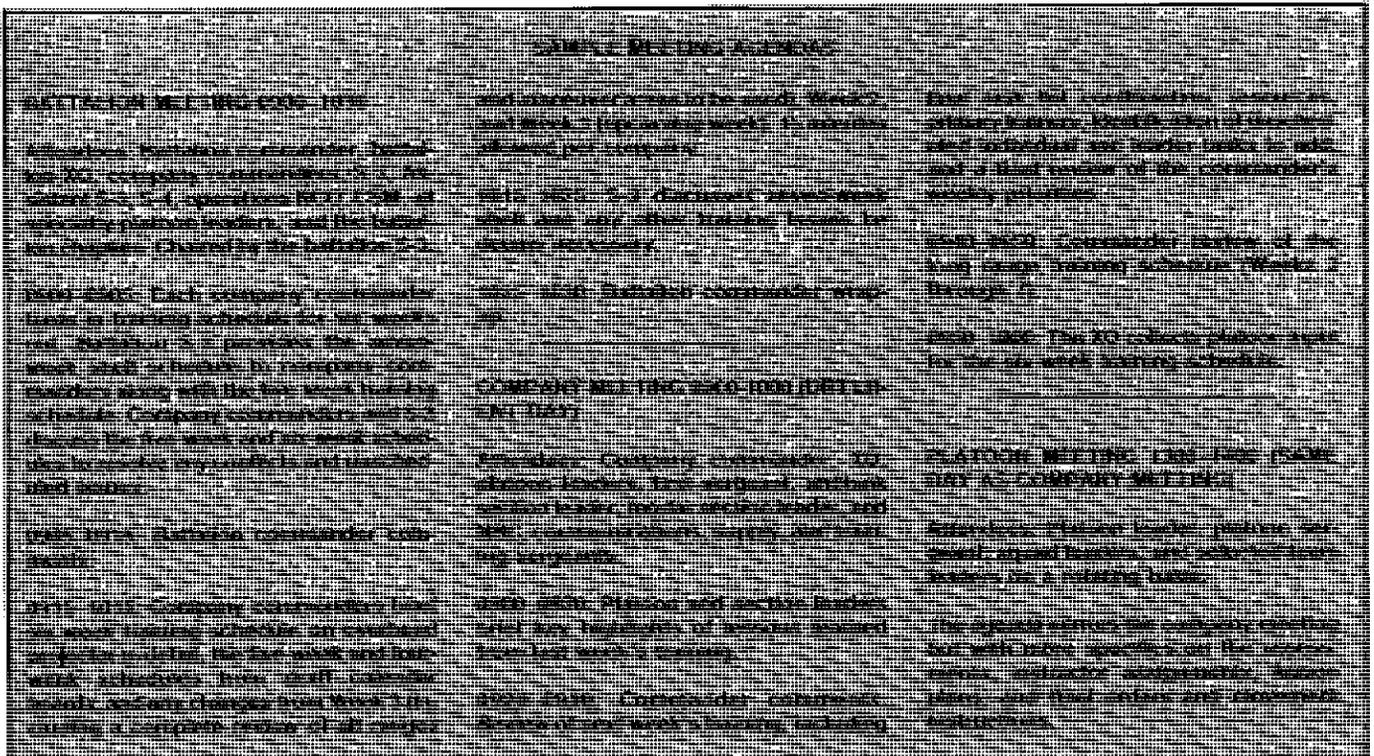
The training and training support meetings can be very productive for any organization. At the same time, if they are not carefully planned and organized, they can easily degenerate into directive sessions. The battalion training meeting is an important event in any unit. Many battalions have a parallel training support meeting to iron out staff planning issues in support of the line organizations' plans. The same set of weekly meetings should be held at company and platoon levels. Time for these events should be

annotated on the training schedule. The company commander may elect to combine the training support and training meetings on the basis of time constraints, but the functional support requirements remain. Some sample agendas from battalion, company, and platoon meetings are shown here.

Doctrinally, training preparation falls under the *planning* step of the training process, but I believe preparations for the conduct of training are more encompassing than many leaders choose to understand or accept. Soldiers often arrive in the field to find themselves in a perimeter pulling security while their leaders are conducting reconnaissance or talking over strategies for conducting a drill. These same leaders are usually the first to gripe about the lack of the necessary resources or time to train their platoons or squads.

I would like to review some critical steps in the preparation process that can help make training more productive:

Task review and selection. A critical component of any training plan is the selection of tasks. Leaders sometimes generalize this process to the point of losing focus and training direction. Often, a leader can be seen training a unit on a drill or collective task that does not





address a METL deficiency. And an observer-controller trying to facilitate an AAR finds that the platoon leaders and squad leaders are confused on which collective tasks define a movement to contact.

Leaders at all levels tend to be overly ambitious when producing task lists, particularly for field training exercises. External evaluations with five major missions (including a deliberate defense) over a three-or-four-day period tend to dilute the training benefit. This form of task overload will be a sure-fire method of achieving mediocrity if leaders fail to schedule retraining time. So how do we select appropriate training tasks?

First, a leader must look back to recent training evaluations and organizational assessments. If these were done properly, he has a number of specific collective, individual, leader, and crew tasks to put into the training calendar and schedule. Fast-roping and rappelling are always fun tasks to train, but do they address METL deficiencies? A leader must be selective in choosing specific tasks that need focus and attention.

The company mission training plan (ARTEP 7-10 MTP) is helpful in the task selection process. The manual cross-references collective tasks, task standards, critical tasks, and supporting in-

dividual, leader, and crew tasks. The manual serves as a task menu for the leader, and it logically divides tasks into their component parts. Additionally, the manual specifies the training time for each task and suggests a host of supporting resources that leaders can integrate into their exercise plans.

Objective preparation. The preparation of objectives and training lanes is an essential part of any unit training plan. Before any collective training event, the company commander must allocate the time and resources for it on the training schedule. Imagination and ingenuity are vital, especially with the Army's present constrained resources. Training in military operations on urban terrain (MOUT) is easy to conduct without a hard site, but an objective area must be prepared in advance of unit training. Target cloth (or plastic) and two-by-four frames can be obtained through normal unit supply channels. Soldiers can produce different floor and room arrangements and relocate the temporary shelter to new terrain with organic support vehicles. The supporting engineer company can train small emplacement excavator (SEE) operators while preparing bunker and trench complexes. Engineer squads and infantrymen can train together in laying wire, emplacing obstacles, and setting booby traps.

All of these advance actions are training events that support the collective unit effort. In fact, if a battalion occupies a large maneuver area over a period of time, each company can prepare sets of lanes that units share and rotate through. This creates variety and a set of conditions that no one squad or platoon could possibly replicate during any one exercise. All of this activity requires dedicated and thoroughly coordinated resources at battalion and company level.

Chalk talks, training area reconnaissances, TEWTs, and rehearsals. Any good coach reviews plays on a medium the players can see such as a locker room chalkboard. A company commander or platoon leader also uses similar devices in going over what his unit has done before another exercise. To form a cohesive and synchronized operation, each team member must understand the techniques and the approach to tactics that the other uses. The key players in the combined arms team are not just the platoon leaders and the executive officer (XO). The fire support officer, engineer squad leader, ground surveillance radar element leader, and mortar and Dragon leaders are a few of the other players who must understand and share a common approach to small-unit tactics.

The initial area reconnaissance—by the battalion commander, S-3, command sergeant major (CSM), and company commanders—may be conducted weeks ahead of time. These leaders select terrain that is suitable for lane construction and preparation. Commanders outline objectives and record locations and positions of bunkers, trenches, obstacles, or buildings. A company TEWT, however, should be conducted only a few days before the unit deploys for the collective training exercise. On the company TEWT, the commander, XO, platoon leaders, and senior NCOs talk about training strategies on the same ground they will use for the training. These leaders orient themselves to the terrain and select suitable assembly areas, resupply points, and other areas that a map reconnaissance might not reveal. Additionally, company leaders can talk through strategies for drills, rehearse techniques, and describe outcomes in terms that are

familiar to everyone present.

Rehearsals and briefbacks. Unit rehearsals and briefbacks are important in every phase of the training. The following are some specific rehearsal and briefback techniques:

The "Human Chess Set" rehearsal is a great opportunity to practice the command and control measures a battalion, company, or platoon will use during operations. On a well-marked parade field, key leaders, support element leaders, staff leaders (such as the tactical operations center and NCOs in charge of the trains), and radio telephone operators can walk from the intermediate staging base through the assembly area across the line of departure and on to the intermediate and final objectives. This kind of rehearsal is easy to standardize and should be included in every tactical standing operating procedure. The leaders and critical communicators at unit level can quickly synchronize an operation during a short practice period.

Before any collective exercise, squads and platoons should also conduct rehearsals (usually actions on an objective or drills) directed at specific training shortcomings. The rehearsals start with a leader talk-through, followed by members of the unit moving through each phase of the

drill or operation at slow speed. The pace of the rehearsal then increases as the unit again runs through it this time at combat speed. This rehearsal should be echeloned to allow for successful completion of the task at team, squad, and platoon levels.

Unit briefbacks serve as a verbal rehearsal of sorts. These should occur with all key leaders at the start of any operational planning phase in training or war. This important leader task can follow a specified format that mirrors the estimate process and reflects the specific needs of a unit. Commanders should conduct a briefback exercise at every available planning opportunity and institutionalize the procedure so that each key unit leader is also present for the briefback of a flanking or supporting unit. Again, this forum allows for a common operational understanding between units and adds to the overall unit training effect.

Putting the entire training process together warrants some discussion. The proper assessment, evaluation, planning, and preparation set the conditions for a successful training event. The notion of multi-echelon training, or the training of different tasks at different levels, becomes reality in the preparation and execution phases of training. The key to this

success is operating under a variety of tough conditions, with continual repetition.

Units can plan to operate day or night during hot, wet, or cold periods and under conditions of poor communications. A unit that can perform basic tasks well in all of these conditions will be successful in combat. The success of a unit training under difficult conditions helps foster trust and confidence between seniors and their subordinates, allay fears of the unknown, and establish a foundation or training legacy that the organization can perpetuate.

As leaders, we are fundamentally responsible for training our units for war. Any hope of success requires our commitment to a set of principles and practices that guides our approach. I offer these thoughts in the hope that they may help leaders and units be even better than they already are.

Captain John L. Pothin has served in company command and battalion S-3 assignments in the 5th Battalion, 14th Infantry, and as a brigade assistant S-3, all in the 25th Infantry Division. He is a 1983 graduate of the United States Military Academy and recently completed a master's degree at the Academy where he will be a special assistant to the commandant. He has had previous articles published in *INFANTRY* and other military publications.

Marksanship Training

A Better Way

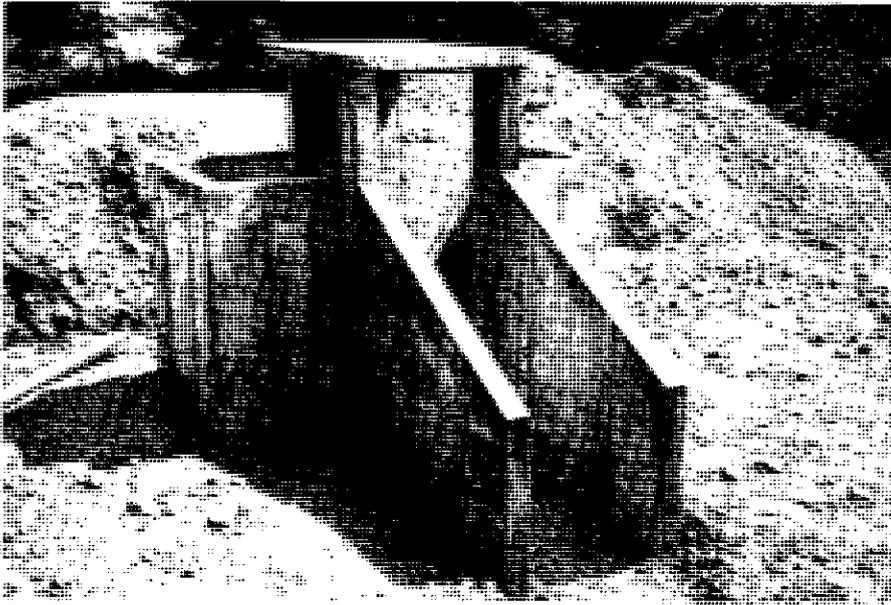
MAJOR MICHAEL C. OKITA

As the United States Army continues to reshape itself for the 21st century, "train as you fight" is still a common theme in units. In this era of change, leaders and soldiers are challenged to train creatively, always searching for innovative ways to make the most of the

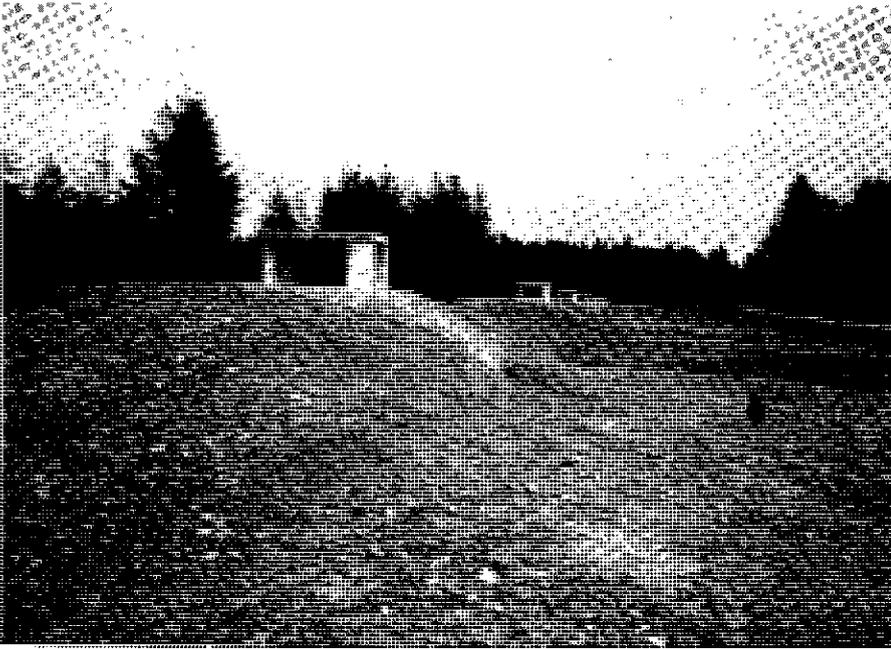
available resources and still operate under the most realistic combat conditions.

Recently, a simple but progressive concept of marksmanship training was introduced at Fort Lewis, Washington. This concept ties the individual soldier task of engaging targets with an M16 ri-

file (STP 21-1—SMCT, *Soldier's Manual of Common Tasks*, task 071-311-2007) to a requirement for him to engage targets from a fully prepared fighting position. Although the task does not include the construction of the fighting position, it does include the ability to detect, en-



Concrete fighting position measures 30 inches deep, 72 inches wide, and 54 inches high (66 inches high at point of overhead cover).



Each position is surveyed into place, and dirt is filled in around it.

gage, and destroy or disable a target. One might conclude, then, that the ability to do so “under combat conditions” or “from a fighting position” is an implied subtask.

With this concept in mind, planners at Fort Lewis made design changes to one of the installation’s M16 marksmanship ranges as part of the post’s facilities modernization program. The changes included erecting concrete fighting positions instead of the traditional round concrete sewer pipes. These individual positions place the marksmen in conditions

comparable to those found while fighting in the defense.

The positions meet the requirements outlined in Field Manual 7-8, *Infantry Rifle Platoon and Squad*. The interior measurements are 30 inches deep, 72 inches wide, and 54 inches high, and each has rear entry access and overhead cover. (At the point of overhead cover, the height is 66 inches.)

For durability, the construction materials include four inches of poured concrete reinforced with #4 reinforcing rods. Each position is surveyed into place to ensure

orderly appearance and correct distance to targets. Dirt is filled in around the concrete structure to give the position depth and protection. Camouflage—sandbags, vegetation—may be added.

Selectively incorporating this concrete fighting position into key ranges, as Fort Lewis did during renovation of its modified record fire (MRF) range, is a highly efficient and cost-effective way to improve marksmanship training. For example, when fully operational the range provides target arrays for rifle qualification, field fire, night, and NBC

(nuclear, biological, chemical) fire to the standards of FM 23-9, *Rifle Marksmanship*, and of STRAC (Standards in Training Commission). The downrange enhanced remote target system (E-RETS)—complete with target lifters, flash simulators, and immediate scoring printouts—further complement the range setup and the overall training program.

Since money is a primary concern during any modernization effort, planners must consider the number of ranges to be upgraded. For instance, it may be more cost effective to continue conducting zero firing from the open cylindrical concrete pipes currently found on most Army ranges. As the firers' confidence and competence grow, they can progress to the more advanced ranges—M16 qualification, field fire, or MRF ranges. When

equipped with concrete firing positions, these ranges offer more comprehensive combat conditions and give the marksmen a more realistic target engagement experience.

Training planners can further reinforce the need to commit resources to range improvements of this type by asking themselves two questions: Is there a need to engage targets as we might in combat? and When was the last time our soldiers participated in live fire training from fully prepared fighting positions? If the answers to these questions indicate a training deficiency, planners should consider introducing concrete firing positions into their marksmanship programs as quickly as possible.

If one or more ranges on each installation can be outfitted with these posi-

tions, every unit—from combat to combat service support, Active Army to Army Reserve and National Guard—can improve its individual marksmanship skills and, more important, its combat readiness.

Anyone who would like additional information on the range modification and the concrete fighting position at Fort Lewis may call Del Larson, Deputy Range Officer, DSN 357-6361 or commercial (206) 967-6361.

Major Michael C. Okita previously served on the G-3 staff of I Corps and is now assigned to G-3 operations, 7th Infantry Division, at Fort Lewis. He previously served in the 82d Airborne Division and the 2d Battalion, 75th Infantry. He is a 1980 ROTC graduate of the University of Dayton.

Escape and Evasion Training

CAPTAIN JOHN S. ZACHAU

There are several situations in which infantrymen may need to know and use escape and evasion techniques: a change in the enemy situation, being in a downed aircraft during an air assault, or being captured in combat. Unfortunately, not everyone can attend the Survival, Evasion, Resistance, and Escape (SERE) Course taught at Fort Bragg. As an alternative, I would like to offer some points on escape and evasion training and some general training information that I used in the 7th Infantry Division (Light), along with a sample course that can be set up at company level.

A unit's planning for escape and evasion contingencies in any operation depends upon the leader's estimate of the situation. If he is conducting an air assault or a reconnaissance mission in which soldiers are to be inserted deep in

enemy territory, he needs to develop an escape and evasion plan and include it in his operations order. The plan should include criteria for continuing the mission, a plan for linking up with other soldiers on the mission, movement, method of exfiltration, routes out of enemy territory, a point of rendezvous with friendly forces, and the equipment that should be carried.

Escape and evasion training should emphasize stamina and endurance, expedient navigation techniques, medical skills, hand-to-hand-combat skills, evasion techniques, and tracking skills.

Since only a limited amount of time can be allocated to survival training, it is important for the trainer to look at Field Manuals 21-76, *Survival*; 7-85, *Ranger Operations*; 21-75, *Combat Soldier Skills*; and 21-150, *Combatives*. All of

these manuals contain important escape and evasion skills and techniques from which a leader can choose the ones that apply to his unit.

The sample training program lasts 48 to 72 hours. The first day consists of nine one-hour blocks of instruction. I used the three platoon leaders, the three platoon sergeants, the executive officer, and the first sergeant—a total of eight trainers—but the noncommissioned officers in a company headquarters platoon can also be used. This allows the line squads to remain intact and the training event to be a team-building exercise geared to squad level. About 20 opposing force (OPFOR) members are needed. This can be an external force or can be formed from the headquarters platoon.

All the personnel involved in the training are equipped with MILES (multiple

SAMPLE ESCAPE AND EVASION PROGRAM

DAY 1 - STIMULUS/NAVIGATION TRAINING

- Each squad moves out on a 12 mile march, either over country or on the road.
- The squads must navigate to the points along the way.
- Enroute the squad must negotiate the obstacles and/or (if being out of the confidence course).
- Each man carries a 40 pound rucksack.
- The squads link up into platoons at the next point.

NIGHT 1 - EASE

DAY 2 - TECHNICAL PRACTICAL CLASSES

- 0600 Wake Up
- 0630 Class 1 Escape and Evasion
- 0700 Class 2 Tracking Techniques
- 0800 Class 3 Survival Techniques
- 0900 Class 4 Patrolling
- 1000 Class 5 Combatives
- 1100 Class 6 First Aid
- 1200 Class 7 Prepare a Sand Table
- 1300 Class 8 Prepare an Operations Order
- 1400 Class 9 Squad Leader Drill Course
- 1500 Squad prepare operations order and prepare to conduct E and F

NIGHT 2 - E & F EXERCISE

- 2000 Move Out on Road

DAY 3 - COMPLETION

- 0600 E and F Exercise Ends
- 0700 Combatives Training
- 0800 Return to Garrison

integrated laser engagement system) gear. While the squads are conducting their exfiltration, anyone who is MILES-“killed” or anyone the OPFOR touches is scored as “captured.”

The stations are positioned in round-robin fashion, and each squad starts at a different station. After each squad has completed its preparatory training, the squads are called in to their platoon leaders. Each platoon leader issues a platoon order that enemy forces have flanked the division and the battalion has been cut off. So that the men will know what an

operations order sounds like, everyone in the company hears the operations order; this is good multi-echelon training.

During the training, the squad leaders must conduct a squad exfiltration of approximately 20 kilometers and link up with partisan forces that will guide them to the friendly forces. This incorporates everything the soldiers have learned in the previous 24 hours about escape and evasion. Every squad leader must prepare a squad operations order, complete with sand table. Each platoon leader gets a chance to evaluate his squad leaders’

operations orders. After a squad leader issues his order and completes the final inspections, the squad receives its final guidance and moves out.

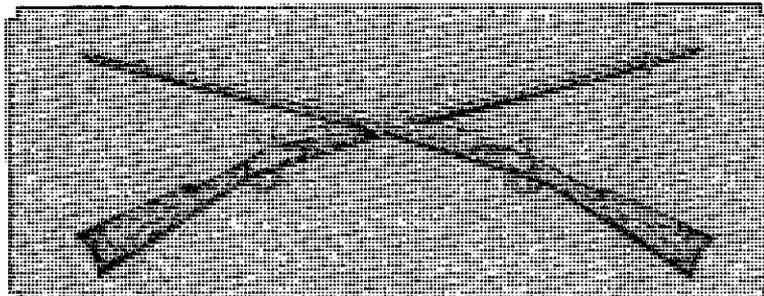
The soldiers must maneuver through the OPFOR, which has vehicles and ambushes set up and tries to track and capture them. This gives the escaping and evading squad a real taste of what it is like to be chased by the enemy.

The squads have a two-hour window in which to link up with the partisans, who actually know the locations of the ambushes. If they miss this window, they continue the mission to the final objective without the aid of these guides. The exercise ends early the next morning, and the final event is a practical combatives exercise at a local hand-to-hand-combat course.

Any special effects that may be available will improve this training: Tape-recorded sound effects for the night—screams, surrender pleas, barking dogs—and spotlights that can peer deep into wooded areas. Local military intelligence detachments or S-2s can help with these aids.

This is an intense 48 to 72 hours of training, but the end result is a unit that has gained another valuable infantry skill which will enable it to elude the enemy and fight another day.

Captain John S. Zachau commands a company in the 1st Battalion, 52d Infantry, the opposing force at the National Training Center at Fort Irwin. He previously served as a light infantry platoon leader, an antitank platoon leader, a battalion S-1, and a company executive officer in the 2d Battalion, 27th Infantry. He is a 1986 graduate of Rowan University. He participated in Operation JUST CAUSE in Panama and in Operation DESERT STORM.



OFFICERS CAREER NOTES



FOREIGN CSC SELECTION AND SLATING

Infantrymen in Year Groups 1980-1983 with skills in Spanish, Portuguese, French, German, Italian, or Japanese may compete for selection to attend a foreign command and staff college (CSC) by writing to Commander, PERSCOM, ATTN: TAPC-MSB (President, FY93 CSC Selection Board, 200 Stovall Street, Alexandria, VA 22332-0400.

In the letter, an officer should request consideration for selection to attend the foreign CSC for which he feels he is qualified. It should contain a short paragraph on his qualifications, including language, assignments, and schooling. Ideally, an officer competing for one of these foreign schools should have already completed a non-resident command and staff college. The suspense date for requests for foreign CSC attendance is 31 August 1993.

An officer who is selected will be placed on assignment instructions if he meets the slating criteria. These criteria are, in general, two years time on station for officers in the continental United States (CONUS) or 30 months for officers assigned overseas. Officers selected from below the zone of consideration must have one year time on station in CONUS or 24 months OCONUS. Additional rules apply to certain situations.

Assignment officers at Infantry Branch, PERSCOM, can provide additional details.

SENIOR RATINGS FOR PROMOTABLE OFFICERS

Promotable officers (except warrant officers) who are serving in positions authorized the higher rank must have a "P" added to the rank shown in the grade block (Ic) on the front of the Officer

Evaluation Report (OER). This is important because the senior rater profile applied to the OER is based on the grade block.

If the "P" is in the block after an officer's rank, a senior rater evaluating him will compare him to the officers in the higher rank. For example, if "CPT" is shown in this block, the officer will be

profiled as a captain, but if "CPT(P)" is shown, he will be profiled as a major.

YEAR GROUP 1990 OFFICERS

The Lieutenant Retention Board and Captain Promotion Board for officers in Year Group (YG) 1990 and the remain-

OFFICER NAME		GRADE	STATUS
COMMERCIAL COLLEGE			
POSSIBLE	NAME	GRADE	STATUS
Branch Chief	CPT Jim Leach	MAJ	
Branch Chief	CPT Bob Cook	MAJ	CONUS
	MSgt Thomas Hamilton		
LT's Block	MSgt Rick Anderson	MAJ	CONUS
	MSgt Mike Smith		CONUS
	MSgt Tracy Perry		
MAJ's Block	MSgt Joe Anderson	MAJ	CONUS
	MSgt Mike Smith		CONUS
	CPT Dave Brown		CONUS
	MSgt Phillip Hester		
CPT's Block	CPT Wayne Smith	MAJ	CONUS
	CPT Mike Smith		
	CPT Mike Smith		
	MSgt Keith Johnson		
MAJ's Block	CPT Michael Smith	MAJ	CONUS
Deck	CPT Mike Smith		
	MSgt Keith Johnson		
	MSgt Phillip Hester		
MAJ's Block	CPT Barry Frazier	MAJ	
Deck	MSgt Charles Smith		
POSSIBLE	CPT Steve Morgan	MAJ	CONUS
MAJ's Block		MAJ	
MAJ's Block		MAJ	
1-4th INFANTRY BRANCH, PERSCOM, ALEXANDRIA, VA 22332-0400			
BRANCH ADDRESS:			
200 STOVALL ST		ALEXANDRIA, VA 22332-0400	
ATTN: TAPC-MSB		ALEXANDRIA, VA 22332-0400	
200 STOVALL ST		ALEXANDRIA, VA 22332-0400	
ALEXANDRIA, VA 22332-0400		ALEXANDRIA, VA 22332-0400	

OFFICERS CAREER NOTES

der of those in YG 1989 are tentatively scheduled to convene in October 1993. Officers in these year groups should plan to attend their officer advanced courses (OACs) during Spring through Fall 1994.

An officer assigned overseas with a date of return from overseas (DEROS) before February 1994 has two options:

- Submit a foreign service tour extension (FSTE) that takes him through January 1994.
- Return at DEROS to a one-year assignment in CONUS, then go on to OAC.

Officers assigned to CONUS installations will remain on station until programmed for OAC dates (at approximately 42 months time on station). Infantry Branch at PERSCOM aims at having lieutenants promoted to captain between their company grade troop assignments, but they will consider officers' special situations on a case-by-case basis.

Lieutenants who have questions or who need further details may call the IOAC desk at PERSCOM, DSN 221-0207 or commercial (703) 325-0207.

ARMY ACQUISITION CORPS (AAC) OPENINGS

Information packets have been mailed to infantrymen in Year Group (YG) 1986 notifying them of the FY 1994 Acquisition Corps Accession Board to convene in October. Each packet contained a description of the program, requirements for accession, and points of contact. This board will access 22 infantrymen from YG 1986.

Due to drawdown losses, there are also a few openings in senior year groups. Infantrymen who are interested in applying for these positions should contact the AAC board officer at DSN 221-6354 or commercial (703) 325-6354.

Each application packet must contain a memorandum requesting accession along with the officer's academic transcripts, GRE/GMAT scores, and preference for functional area (FA) within AAC. The options are FA 51 (Research and Development), FA 53 (Systems Automation), and FA 97 (Contracting/Industrial Management). Requests must arrive at Infantry Branch by 30 September 1993.

THE HEAVY-LIGHT IMPERATIVE

The heavy-light imperative is a process Infantry Branch uses in making follow-on assignments for infantrymen attending officer advanced courses (OACs). This means that officers who serve in heavy units before attending an OAC will be assigned to light units afterward, and those assigned to light units will be assigned to heavy units.

Unfortunately, a few infantrymen continue to bemoan the Army's policy of having them trained in both light and heavy infantry. But the heavy-light imperative is here to stay; it applies to everyone; and it is the right thing to do.

The downsizing of the Army will bring significant changes for the future, and the competition will be keen in the infantry force. Our projected force structure will demand that infantry officers be profes-

sionally developed in all types of infantry. They will have to be capable of capitalizing on all the assets available to them.

Our record in maintaining the standard of heavy-light follow-on assignments has been consistent over the past two years. Among the last 350 active Army advanced course graduates, for example, only three exceptions have been granted, and these were for compassionate reasons or other special circumstances.

The more versatile an officer is and the better he understands all facets of the infantry, the better off he will be in our Army of today and tomorrow.

PHOTO UPDATE

Here are a few tips on taking official photos that will help ensure that the one a board sees sends the right message:

- Don't wear the blue infantry cord or leadership tabs for the photo.
- Don't wear your Class A uniform to the photo lab. Hand carry it to avoid excessive wrinkles.
- Don't wear a short-sleeved shirt; the collar is not tailored properly for wearing a tie with it.
- Do ensure that your uniform fits properly.
- Do take time to measure the position of awards before you pin them on.
- Do check award precedence. (The Kuwaiti Liberation Medal, for example, is now the lowest of all U.S. awards.)
- Do take a buddy and a copy of Army Regulation 670-1 along to double check your appearance.



BOOK REVIEWS



As part of its participation in the Army's 50th anniversary commemoration of World War II, the Center of Military History (CMH) has begun publishing various materials to help educate the American public about that war. The Center also hopes its new publications will, "renew pride in an Army that fought so magnificently in what has been called 'the mighty endeavor.'"

Last year, the Center published a number of slim brochures, in softcover but containing photographs and maps, that are part of a continuing series of campaign studies highlighting the Army's World War II operations. Each brochure includes suggestions for further reading, which is most useful.

We have received copies of the first seven brochures and heartily recommend them to you:

- **DEFENSE OF THE AMERICAS, 7 DECEMBER 1941 - 2 SEPTEMBER 1945.** By Charles E. Kirkpatrick. CMH Pub 72-1, 1992. GPO S/N 008-029-00230-2. 24 Pages. \$1.50.

- **A BRIEF HISTORY OF THE U.S. ARMY IN WORLD WAR II.** By Wayne M. Dzwonchyk and John Ray Skates. CMH Pub 72-2, 1992. GPO S/N 008-029-00245-1. 48 Pages. \$2.25.

- **PHILIPPINE ISLANDS, 7 DECEMBER 1941 - 10 MAY 1942.** By Jennifer L. Bailey. CMH Pub 72-3, 1992. GPO S/N 008-029-00231-1. 23 Pages. \$1.00.

- **CENTRAL PACIFIC, 7 DECEMBER 1941 - 6 DECEMBER 1943.** By Clayton R. Newell. CMH Pub 72-4, 1992. GPO S/N 008-029-00232-9. 23 Pages. \$1.00.

- **INDIA-BURMA, 2 APRIL 1942 - 28 JANUARY 1945.** By David W. Hogan, Jr. CMH Pub 72-5, 1992. GPO S/N 008-029-00233-7. 26 Pages. \$1.25.

- **ALEUTIAN ISLANDS, 3 JUNE 1942 - 24 AUGUST 1943.** By George L. McGarrigle. CMH Pub 72-6, 1992. GPO S/N 008-029-00234-5. 26 Pages. \$1.25.

- **PAPUA, 23 JULY 1942 - 23 JANUARY 1943.** By Charles R. Anderson. CMH Pub 72-7, 1992. GPO S/N 008-029-00235-3. 22 Pages. \$1.00.

Another CMH World War II commemorative publication, not part of the above-mentioned series, is: **U.S. ARMY SPECIAL**

OPERATIONS IN WORLD WAR II. By David W. Hogan, Jr. CMH Pub 70-42, 1992. GPO S/N 008-029-00248-5. 158 Pages. \$5.00, Softbound. The Center's definition of special operations as used in this publication refers to "commando or guerrilla activities conducted by the U.S. Army in World War II." The book has numerous maps and photographs. (It should be noted that the author's doctoral dissertation was a history of the U.S. Army's Rangers from 1942 to 1983.)

Thus, there are brief discussions of such units as the Rangers (including the little-known 29th Ranger Battalion), the 1st Special Service Force, the Alamo Scouts, the Galahad force (better known as Merrill's Marauders), OSS Detachment 101, and the Jedburghs (the subject of a previously published CMH brochure).

The author concludes that because of the nature of the war, "special operations could do little more than provide support to the conventional forces that dominated the battlefield." But he believes that while "special operations played a secondary role in Allied military efforts throughout the war, they made significant contributions to the final victory" and "the Army can still learn much from its [special operations] experiences during World War II."

One final CMH World War II commemorative publication is the Center's first reprint of a World War II "green book," one of the volumes in the official Army World War II series: **NORTHWEST AFRICA: SEIZING THE INITIATIVE IN THE WEST**, by George F. Howe. (First printed in hardcover in 1957.) CMH, 1993. 748 Pages. CMH Pub 6-1-1. No price listed.

In paperback format, this book is a faithful reprint of the original hardcover version, with two minor exceptions. The 12 maps that were tipped-in at the back of the original book here have been reprinted, gathered together, and placed in an accompanying envelope instead of being made a physical part of the volume. (The paperback format does not lend itself to tipping-in a large number of maps all at one spot.) In addition, the large *National Geographic* map found in a special envelope affixed to the inside back cover of the hardcover version has been omitted.

The "green books" have long been recognized for their historical importance. Unfortunately, many of them have been out of print for years. It is good to see the Center has decided to bring them back in this fashion, which should also make them more readily available and less costly to students of the war.

A different sort of publication from CMH has also come our way: **AMERICAN ARMIES AND BATTLEFIELDS IN EUROPE: A HISTORY, GUIDE, AND REFERENCE BOOK.** First CMH Edition. CMH Pub 23-24, 1992. No GPO S/N available. 547 Pages. \$27.00. This is a reprint (with a new introduction) of a 1938 guidebook produced by the American Battle Monuments Commission. The guidebook, with its numerous photographs and excellent maps, was designed to provide visitors to the American Battlefields in Europe with a detailed documented itinerary as well as a history of the American Expeditionary Force (AEF). It had been out of print since World War II, and many individuals and groups had indicated their desire to own copies. The reader should note that one chapter (VIII) is devoted to U.S. operations in Italy and northern Russia, and another (X) to U.S. Navy operations in World War I.

Accordingly, the Center has republished the guidebook in its original format to commemorate the AEF's 75th birthday. The book's maps and directions can still be used today, but they should be supplemented with a contemporary road map or an official French topographic map.

This republished volume also marks the last in the Center's reprinted World War I series of publications, a most valuable source for anyone doing research in that I era.

Historians, students of World War I, and individuals with an interest in this particular field will also find this guidebook most valuable and informative. And so will World War I veterans (now few in number) and their descendants.

Finally, Brassey's latest contribution to the field of military literature may well be the best yet: The six-volume **INTERNATIONAL MILITARY AND DEFENSE ENCYCLOPEDIA.** Edited by Colonel (Retired) Trevor N. Dupuy. Brassey's (US), 1993.

tested under fire and has shown uncommon courage. Many will say they were lucky; others, those who cannot attend these gatherings because of the seemingly innocuous word "posthumous" attached to their award citations, were not so lucky.

Edward Murphy has dedicated a large part of his life to bringing the story of these courageous men to the public. Before this book, he also wrote *Vietnam Medal of Honor Heroes* and *Heroes of World War II*. He is also the editor and publisher of the *Journal of the Medal of Honor Historical Society*.

In this latest volume, he has interwoven the story of each of the Medal of Honor winners into an overview history of the Korean War. This is more than just a recitation of the winners' medal citations. Murphy interviewed many of the surviving heroes. (As an indication of how savage and how desperate the fighting in Korea was, only 37 of the 131 Medal of Honor recipients survived their heroic actions.) He also searched the unit and personnel records for all the Medal winners. Their heroic deeds are retold within the context of what was going on around them, both in their units and in the larger scope of the war itself.

JEFFERSON DAVIS AND HIS GENERALS: THE FAILURE OF CONFEDERATE COMMAND IN THE WEST. By Steven E. Woodworth. University Press of Kansas, 1990. 380 Pages. \$25.00. Reviewed by Major Don Rightmyer, United States Air Force.

This is one of the finest historical volumes written in recent years about the strategy and leadership of the U.S. Civil War. For the book's particular focus—Confederate President Jefferson and his commanding generals in the western theater of operations—it can be compared with T. Harry Williams's *Lincoln and His Generals*. It is a most worthwhile contribution to an aspect of the war that has often been overlooked or neglected.

Steven Woodworth lays the groundwork for his entire study with a concise examination of Davis's life, both in military and political spheres, before his election to the Confederate presidency. He follows that with a detailed discussion of the geography of the territory outside the Virginia theater that the South attempted to control and protect.

The author's study of Davis's relationships with the various generals who had responsibility for military operations in the West includes Albert Sidney Johnston, Leonidas Polk, Joseph Johnston, Braxton Bragg, John B. Hood, Pierre G.T. Beauregard, Sterling Price, Earl VanDorn and numerous other

generals who played important roles in the command relationships of the Confederate armies and their relation to the government at Richmond.

The author's in-depth research into the interaction between Davis and his generals is immediately obvious. Along with the give and take between the Southern commanders and their civilian political master, Woodworth interweaves a good description of the flow of military campaigns in both the West and the East. His analysis is even-handed, and he does not try to place all of the blame or the glory at the feet of one individual or group. The fault for the South's ultimate defeat lay in many areas, and Woodworth focuses a great deal of objective analysis on the leadership successes and failures.

This well-written study of military and political leadership in the Confederacy provides a valuable reference for both the general reader and the military professional.

RECENT AND RECOMMENDED

THE COLDEST WAR: A MEMOIR OF KOREA. By James Brady. Originally published in hardcover in 1990. Pocket Books, 1991. 292 Pages, Softbound.

SURVIVING A JAPANESE P.O.W. CAMP: FATHER AND SON ENDURE INTERNMENT IN MANILA DURING WORLD WAR II. By Peter R. Wygle. Pathfinder, 1991. 213 Pages. \$11.95, Softbound.

DRAGONS AT WAR. By Daniel P. Bolger. First published in hardcover in 1986. Ballantine, 1991. 299 Pages. \$5.95, Softbound.

STRATEGY AFTER DETERRENCE. By Stephen J. Cimbala. Praeger, 1991. 288 Pages. \$45.00.

SOLDIERS OF THE OLD ARMY. By Victor Vogel. Texas A&M University Press, 1990. 124 Pages. \$22.50.

UNIFORMS OF THE CIVIL WAR. By Philip Haythornthwaite. First published in the United Kingdom in 1975. Sterling, 1990. 128 Pages. \$9.95, Softbound.

THE VIOLENT DECADE: A FOREIGN CORRESPONDENT IN EUROPE AND THE MIDDLE EAST, 1935-1945. By Frank Gervasi. Norton, 1989. 629 Pages. \$25.00.

WARRIOR: THE AUTOBIOGRAPHY OF ARIEL SHARON. By David Chanoff. Simon and Schuster, 1989. 571 Pages. \$24.95.

THEN AND NOW: HOW THE WORLD HAS CHANGED SINCE WW II. By Tad Szulc. Morrow, 1990. 515 Pages. \$22.95.

CURRENT MILITARY AND POLITICAL LITERATURE, VOLUME 6, NUMBER 1. Edited by Simon King and J.I.H. Owen. The Military Press, 1990. 158 Pages. \$140.00, Softbound.

THE NORTH ATLANTIC TREATY ORGANIZATION: FACTS AND FIGURES. 11th Edition. Published by the NATO Information Service, 1989. 577 Pages, Softbound.

INTERNAL SECURITY AND CO-IN. NUMBER 1. An Editorial Supplement to the May 1990

Issue of *International Defense Review*. Jane's Information Group. 35 Pages, Softbound.

AMERICAN, CHINESE, AND JAPANESE PERSPECTIVES ON WARTIME ASIA, 1931-1949. By Akira Iriye and Warren Cohen. SR Books, 1990. 308 Pages. \$40.00.

GREAT MILITARY DISASTERS. By Geoffrey Regan. Evans, 1988. 320 Pages. \$22.50.

CENTRAL AMERICAN WARS, 1959-89. Text by Carlos Caballero Jurado and Nigel Thomas. Color Plates by Simon McCouaig. Men-at-Arms Series No. 221. Osprey, 1990. 48 Pages, Softbound.

THE SA 1921-45: HITLER'S STORM-TROOPERS. Text by David Littlejohn. Color Plates by Ron Volstad. Men-at-Arms Series No. 220. Osprey, 1990. 48 Pages, Softbound.

ANCIENT CHINESE ARMIES, 1500-200 BC. Text by C.J. Peers. Color Plates by Angus McBride. Men-at-Arms Series No. 218. Osprey, 1990. 48 Pages, Softbound.

QUEEN VICTORIA'S ENEMIES (3): INDIA. Text by Ian Knight. Color Plates by Richard Scollins. Men-at-Arms Series No. 219. Osprey, 1990. 48 Pages, Softbound.

FIGHTING FOR PEACE: SEVEN CRITICAL YEARS IN THE PENTAGON. By Caspar Weinberger. Warner Books, 1990. 445 Pages. \$24.95.

CRACKING THE ZERO MYSTERY. By Jim Rearden. Stackpole, 1990. 128 Pages. \$11.95, Softbound.

LIFE AFTER VIETNAM: HOW VETERANS AND THEIR LOVED ONES CAN HEAL THE PSYCHOLOGICAL WOUNDS OF WAR. By Delores A. Kuenning. Paragon House, 1991. 389 Pages. \$22.95.

THE CHINESE SECRET SERVICE: KANG SHENG AND THE SHADOW GOVERNMENT IN RED CHINA. By Roger Faligot and Remi Kauffer. Translated from the French by Christine Donougher. Morrow, 1990. 527 Pages. \$24.95.

A P.O.W.'S STORY: 2801 DAYS IN HANOI. By Colonel Larry Guarino. Ballantine, 1990. 341 Pages. \$4.95.

THE CIVIL WAR NOTEBOOK OF DANIEL CHISHOLM: A CHRONICLE OF DAILY LIFE IN THE UNION ARMY, 1864-1865. Edited by W. Springer Menge and J. August Shimrak. Originally published in 1989. Ballantine, 1990. 202 Pages. \$9.95.

SLIM BUTTES, 1876: AN EPISODE OF THE GREAT SIOUX WAR. By Jerome A. Greene. University of Oklahoma Press, 1990. 208 Pages. \$9.95, Softbound.

PSYCHOLOGICAL OPERATIONS AND POLITICAL WARFARE IN LONG-TERM STRATEGIC PLANNING. Edited by Janos Radvanyi. Praeger, 1990. 168 Pages. \$37.95.

THE BLACK CAT SQUADRON: NIGHT BOMBING IN WORLD WAR I. By Humphrey Wynn. Smithsonian Institution Press, 1990. 240 Pages. \$24.95.

ARCTIC LEVERAGE: CANADIAN SOVEREIGNTY AND SECURITY. By Nathaniel F. Caldwell, Jr. Praeger, 1990. 144 Pages. \$37.95.

FORGING THE ALLIANCE: NATO, 1945-1959. By Don Cook. Originally published in hardcover in 1989. Morrow, 1990. 306 Pages. \$12.95, Softbound.

UNITED STATES OVERSEAS BASING: AN ANATOMY OF THE DILEMMA. By James R. Blaker. Praeger, 1990. 216 Pages. \$39.95.

From The Editor

ON THE STUDY OF MILITARY HISTORY

The ability to recognize the relevance of past events is fundamental to the study of military history, and the application of the lessons of history can have far-reaching consequences in treaties negotiated, battles won, and even national survival.

A sense of history has been a common quality among the great military leaders of many nations, including our own. Frederick the Great compared history to a filing system from which one may freely draw, while Napoleon actually carried with him on his campaigns files of historical vignettes from past wars, on subjects as varied as tactics, logistics, field sanitation, and terrain employment. Today, we still turn to history to find the keys to victory.

General Patton drew heavily upon the works of history's great battle captains in planning his campaigns, as did the German commanders who hurled their forces against Russia. Later, in Vietnam, U.S. planners often ignored lessons learned at great cost against the Japanese in World War II, and by the French in Indochina. The history of desert warfare received closer attention when the U.S. planned the liberation of Kuwait, the destruction of the Iraqi Army, and the enormous logistical effort it would take to make it all happen. The experiences of the Israelis; the British, French, and Americans in North Africa; and even the Iranians and the Iraqis themselves all contributed to the training and doctrinal steps taken to ready the Coalition Forces for the task at hand.

Now our attention is being drawn to events in the Balkans, and to the history and armies of that troubled region. But this time the focus is broader, not concentrating solely on the Axis experience in World War II or even on the events of World War I but even earlier, on those centuries when the foundations of today's tragedy were being laid. When the lives of our soldiers and the wealth and prestige of our nation are at stake, we have finally learned to do our homework.

But how can we impart all of the countless lessons of history? The answer is simple: We cannot. What we can do, however, is teach our officers and noncommissioned officers to read and understand what history offers. We do this at the Infantry School through staff rides, instruction in battle analysis, directed readings, the publication of historically significant articles, small group instruction, and the monographic collection of the experiences of combat veterans.

This is where you come in. Many of your fellow soldiers would give anything to have the benefit of your experience, whether on the battlefield or on a staff supporting the maneuver force. The difference—technological advances aside—between a platoon clawing its way ashore at Normandy and a platoon squaring off against a Republican Guard unit is temporal; men under fire are still motivated by the same things that gave us victory in World War II—concern for their buddies; confidence in their leaders, weapons, and training; and a clear understanding of the mission. You have been there. Tell us what you did right. Tell us what you did wrong, and what you learned from it. Today's soldier may go to war only once in the course of his Army career, and you can help make sure that when that time comes he will be as ready as you would like to have been.

RAE

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