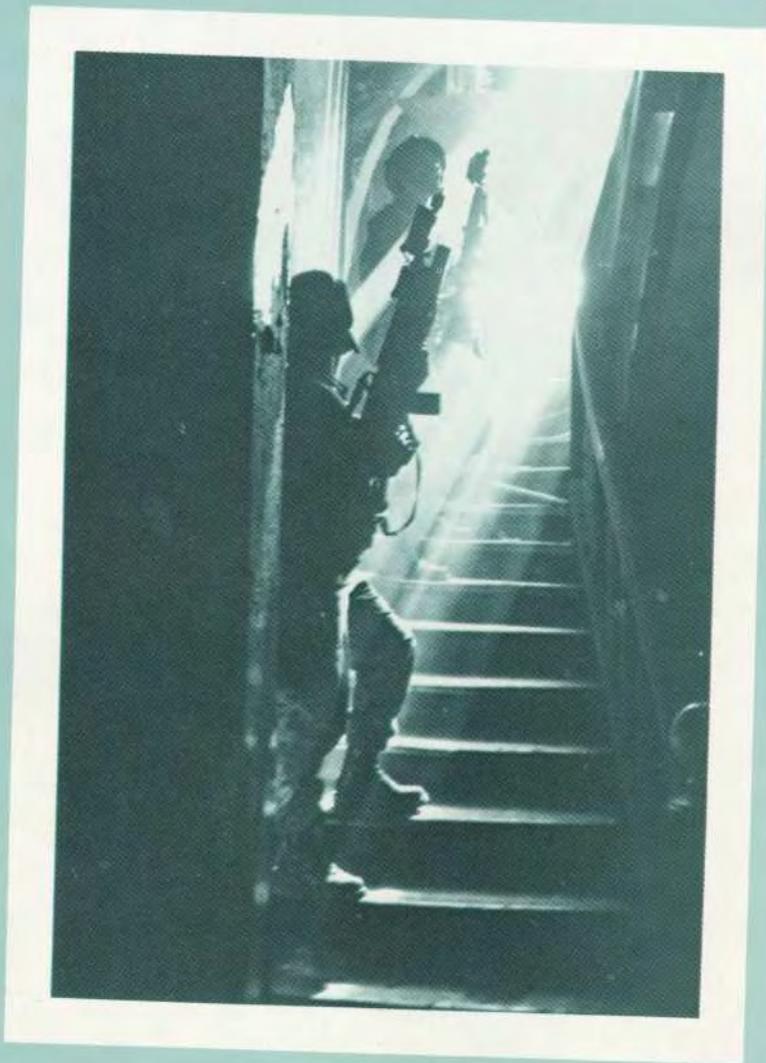


Infantry

A PROFESSIONAL JOURNAL FOR THE COMBINED ARMS TEAM



SEPTEMBER-OCTOBER 1985

Infantry

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FRONT COVER

The U.S. Infantry — the finest fighting force the world has ever seen
balanced, determined, skilled, and thoroughly professional.

USAIS

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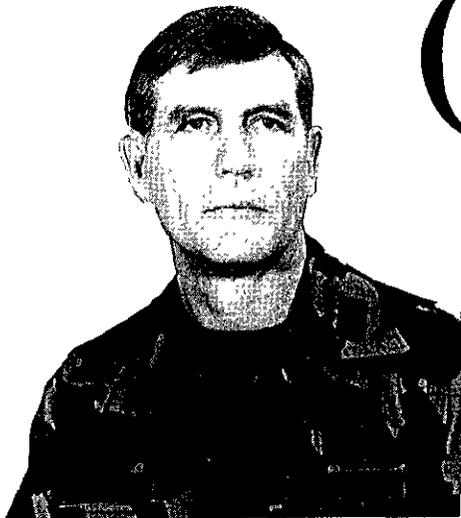


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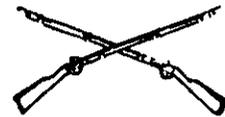
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Major General John W. Foss
Chief of Infantry

Commandant's NOTE



HEAVY-LIGHT MIX

In my Note in the March-April 1985 issue of *INFANTRY*, I expressed my concern that our Infantry community could become a divided one if Infantrymen everywhere did not accept the idea that while there might be several *infantries*, there is only one *Infantry*.

What I feared then seems to have come to pass with heavy (mechanized) infantry and light infantry advocates going at each other rather strongly. In particular, the mechanized infantrymen feel they are somehow being short-changed in manpower and resources, that the Army's hierarchy is concentrating most of its attention on the new light infantry units while ignoring their genuine needs, and that the TRADOC service schools — specifically the Infantry School, which is being accused of "going all light" — are ignoring the mechanized infantry's need for training and doctrinal publications while churning out all kinds of light infantry material.

Let me assure all Infantrymen now — we at the Infantry School are not partial to any one of our *infantries*, but we are very partial to the *Infantry*. I feel that the balancing of forces now going on is good for the Infantry because for the first time in a decade we are adding infantry battalions to the Army's structure and are increasing our infantry foxhole strength.

Let's face it: Under the Division 86 structure the initial TOEs were not fully resourced simply

because the Army never had the resources to do so. In order to get it down to manageable levels the strength of the infantry battalion was reduced from 896 to 844 soldiers. Some of these losses were suffered by our rifle squads as they went from 10 to 9 men each. Many of our mechanized infantry battalion commanders have been concerned with this loss of foxhole strength, because they know they have only 32 fighting soldiers in their 36 Bradley-equipped squads.

With our new light units, therefore, we are getting more dismounted fighting infantrymen on the ground, where they belong, either to fight independently or to act in concert with our mechanized infantry units. Many of our light infantry divisions will integrate with our heavy divisions in a NATO war. (On the latter subject, see the three articles in the July-August 1984 issue of *INFANTRY*.)

The Army is not bringing light infantry in at the expense of its heavy units. These infantrymen are coming from the reorganizations of our present regular infantry divisions — such as the 7th and the 25th — and from our TDA overhead. And while we will not see an increase in the number of infantrymen in the mechanized battalions neither will we see another decrease in the number. What we must do now is train to integrate our mechanized and light infantry units.

when the scenario calls for it so that they can present a strong, united front against any enemy. (I would also recommend as reading on this subject General William Depuy's article, "The Light Infantry: An Indispensable Element of a Balanced Force," which appeared in the June 1985 issue of *Army* magazine.)

Are we concentrating too much of our attention on our light infantry units? I'm not, and I know the Infantry School is not.

It is true that at Benning we are putting out several manuals on light infantry tactics and training; are running the Light Leaders Course and the expanded Ranger Course; and have an add-on light infantry operations module for IOAC.

But at the same time, we have made a monumental effort in formulating manuals for Bradley units — The Tank and Mechanized Infantry Task Force (FM 71-2J), The Mechanized Infantry Platoon/Squad (BFV) (FM 7-7J), and Bradley Drills (FC 7-21B); we are putting out a new improved ARTEP for Bradley platoons; and we are looking at various Bradley training devices. In fact, mechanized infantry operations serve as a basis for most of our tactical instruction.

We have also added periods of instruction on the Bradley fighting vehicle to our basic and advanced officer courses; we offer a Bradley commanders course; we have an officer maintenance course; and we have an additional course as an add-on module for advanced course students assigned to mechanized units.

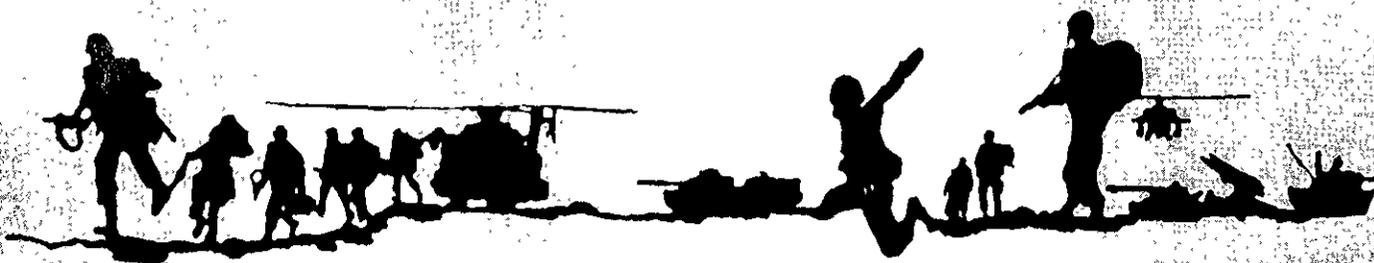
We realize that training the Bradley force is tough because there are new demands on leaders and that the hard, detailed gunnery and turret maintenance skills require a precision most infantrymen are not yet used to. We are working on how best to do all of these things. In addition

to our NET team, for instance, we have ARI, TRASANA (in Europe), and Litton working with us on these problems. I think we know how to transition a unit. How to structure a sustainment training program for Bradley units is not that easy. I think the tactics are settling down, but they are not yet deeply ingrained. We will share everything we find and ask that you do the same.

Let me again emphasize this point. Our infantrymen, no matter what label precedes their names, are infantrymen first, and their basic mission has not changed in 210 years. To be ready when called on to do battle, they should be trained and experienced in several specialties — mechanized, airborne, air assault, motorized, and the like. We cannot afford to have infantry officers and noncommissioned officers hold views so narrow and so specialized that they cannot serve effectively in different types of infantry units around the world; yet we must recognize that each does have specific training standards for today's job.

I regret that some infantrymen today are concerned about the increased hype given the new light infantry units. I certainly do not view our mechanized infantry and light infantry units as being in competition. We must be realistic about getting more infantry onto the battlefield, and we must all pull together to get more infantry. Every war we've ever had has proved time and time again that we did not have enough infantry of *any* type.

Admittedly, we are in a period of transition. But with all of us pulling together and sharing our thoughts, we can make our Infantry the finest fighting force the world has ever seen — balanced, determined, skilled, and thoroughly professional.



INFANTRY LETTERS



SAFETY vs REALISM

I applaud Captain Kratman's article "Concerning 'Safety'" (May-June 1985, page 10). Having served as a company commander and a battalion S-3 with the 193d Infantry Brigade in Panama, I can unequivocally state that training realism and live fire exercises from individual to company level were everyday tasks there.

In units outside that brigade, however, I have found leaders habitually concentrating their efforts on observing the safety of their men and not on the developing tactical scenario. They were reluctant to employ fire and maneuver. The soldiers, too, consistently showed hesitation and a reluctance to employ fire and movement techniques.

In contrast, the soldiers of the 193d Brigade had absolute trust and confidence in the ability and judgment of their comrades and devoted their attention to the mission at hand.

Boundaries, phase lines, routes of advance, probable lines of deployment, and objectives are the safety measures leaders employ. Anything beyond good military command and control measures detracts from training realism.

Our units must constantly train in realistic conditions employing all organic and attached weapon systems in a free-flowing tactical environment, and unit leaders must become more involved in their tactical roles.

Let's start practicing the way we're going to play!

W. SCOTT KNOEBEL
CPT, Infantry
MILPERCEN
Alexandria, Virginia

ANOTHER VIEW

In Captain Kratman's article in your

May-June 1985 issue, he laments the so-called overstringent safety requirements in live fire exercises. I would agree that "unreasonable preoccupation with reducing or eliminating injuries and deaths, to the exclusion of all other considerations" would significantly detract from realistic training. But I do not feel that the restrictions mentioned in the article are unreasonable.

Many of these problems can be eliminated, with little loss of realism, by a more extensive use of MILES equipment. Live munitions do not leave much room for mistakes when used in training; MILES does. People do make mistakes, even well-trained soldiers. And mistakes are supposed to happen in training so they can be corrected before they cause casualties and mission failure during wartime. There is, however, no excuse for a preventable accident that causes the injury or death of a soldier, especially during peacetime. The use of live munitions requires that safety be more heavily weighed against realism in training, and that restrictions be put on the type of training in which they are used.

Conversely, timidity in attacking the problems of realistic training is not satisfactory. For instance, the lack of any sort of target other than "somewhere in the live grenade range impact area," doesn't present realistic training for our soldiers. Targets need to be set up, and a system of scoring needs to be devised for live-grenade ranges.

Challenging demolition training can be used in conjunction with range and post improvement projects in many cases. This type of training gives soldiers more opportunities to think (in deciding the type of charge needed and its placement), and it also gives them more of a sense of purpose in their training. The training is no

longer just "priming the same meaningless lump of C-4," dumping it into a demolition pit and watching it go "boom." In the long run, it might save the Army some money as well.

Safety is most desirable in all training situations. Accidents are not just "the cost of doing business." The active and aggressive involvement of a unit's leadership can and must ensure that realistic training is conducted without detracting from safety. Realistic training that causes real casualties is not good training!

MARK A. DORNEY
1LT, Field Artillery
Fort Sill, Oklahoma

TRAINING LIEUTENANTS

Reference "Training New Lieutenants," by Captain Samuel K. Rock, Jr., in your November-December 1984 issue (page 35), I was amazed that NCOs were not mentioned more as trainers of lieutenants.

AR 600-20 describes the platoon sergeant as playing a key role in the chain of command as an assistant and advisor to the platoon leader and as one who assumes temporary command in his absence.

With 13 years of experience in the infantry, I think this is logical on the basis of the training the platoon sergeant has received. In most circumstances, the platoon sergeant already has a thorough knowledge of how a platoon should be run and has worked with other platoon leaders before the new one arrives. Who, then, seems most qualified to train the new lieutenant?

The company commander should train the new lieutenant, of course, on his role in the officer corps and on where he fits into the company scheme

of maneuver. But the platoon sergeant should advise the platoon leader on the operation of the platoon.

Even though the article says that many new lieutenants in Europe say they are not even sure what their job is or how they fit into their units, I have observed over the years that most new lieutenants do want to accept complete responsibility for their platoons.

It is my conviction that a platoon leader and platoon sergeant should form a combined "fighting team" to cover all aspects of training the platoon. Once both know their duties and perform them together, their platoon will become combat ready.

ROY A. FABIAN, JR.
SFC
2d Armored Division (Forward)

UNEXPLOITED ASSET

Many people subscribe to the philosophy that all soldiers are basically infantrymen but with different specialties. In my opinion mortars are an extension of field artillery, and artillery techniques are directly applicable to the mortar's mode of operation.

From my observations, though, most infantry units lack the necessary organic expertise to effectively train or employ their mortars within broad artillery concepts. In many cases the mortar platoon leaders lack the up-to-date training, guidance, and experience to complete their missions. A platoon leader is usually in the early phases of his career and is busy developing his confidence and technical expertise.

An infantry battalion has no one skilled in up-to-date artillery techniques who provides guidance for the mortar platoon leaders. The battalion fire support officer (FSO) can be the solution to this problem.

The battalion FSO can be used to provide training and guidance in the reconnaissance, selection, and occupation of positions; fire direction center operations (in both consolidated and split modes); hip shoots; and displace-

ment by echelon. He can also provide guidance to the battalion commander, the company commanders, and the platoon leaders on how to conduct their training to bring their units to the highest level of readiness.

The FSO can be a tremendous asset to an infantry battalion in this regard but, like any other asset, only if he is fully used.

ALBERT J. TONRY II
CPT, Field Artillery
FSO, 1st Battalion, 101st Infantry
Massachusetts Army National Guard

WHY NOT?

When I was a rifle platoon leader, one of the problems I often encountered was in signaling my squad leaders, support elements, or security personnel. The star clusters and parachute flares used with the M16A1 are large and cumbersome, and the squad radios (PRC-68s) are unreliable at times.

It seems to me that if a rifle platoon leader trained with and carried an M203 grenade launcher, he could carry a variety of star clusters and other signaling devices in less space with less weight. The platoon leader would not necessarily have to carry the full basic load of 36 rounds, just a few rounds for signaling. The M203 does weigh more than the M16 but not much, and its additional versatility would make up for that extra weight.

The platoon leader could mark targets indirectly with a smoke or HE round instead of with a stream of tracers. He could initiate a raid or an ambush with an HE round and keep his organic M203s with the support element.

He could also provide his own illumination instead of violating noise and light discipline by calling to his M203 gunner, who is primarily respon-

We welcome letters from our readers and print as many of them as we can. Sometimes it takes a while before we find room for them. But keep writing on topics of interest to our readers, and we'll do our best to get your letters in, sooner or later.

sible for the deadspace in front of the M60 machinegun, while in the defense.

The M203 gives the platoon leader a variety of options that are not available with the M16A1 and the standard signaling devices issued to him.

When I suggested this idea to my commander, though, he laughed and said it was not a good idea. But he failed to convince me that it was not practical. Maybe some INFANTRY readers can explain to me why this is not a good idea — or maybe why it *is*. I would appreciate any comments on the subject.

GARY W. ACE
1LT, Infantry
CSC, 1st Battalion, 5th Infantry
Schofield Barracks, Hawaii 96857

CHALLENGING CTT

All too often the Common Task Test (CTT) is administered only out of necessity and is boring to the soldiers. But the CTT can be made more challenging than this.

After last year's CTT, my company — Headquarters Company, 2d Battalion, 124th Infantry (Florida National Guard) — decided that something better had to be done. That test was conducted in the company area in round robin fashion. The lines were long, and the soldiers selected as evaluators were not well prepared for what they were to do. That's when it was decided that the 1985 CTT would be conducted the way it should be — in the field, in a tactical situation, and in a more challenging way.

First, the unit NCOs were asked to suggest ways to improve the CTT — to make it more interesting to the soldiers taking it. We decided that a two-mile course through the forest along an unimproved road or trail would be best, with test stations placed at various locations along the route. Soldiers would start the course in two-man teams at ten-minute intervals. The length of the course would make waiting time at the stations minimal.

The NCOs selected to be evaluators were notified well in advance and encouraged to become experts on the tasks assigned to them. As a result, they demonstrated creative ability and resourcefulness. (Each evaluator was assigned two tasks, which reduced the number of evaluators needed to conduct the test.)

Some innovative ideas were used. The soldiers were instructed, for example, to camouflage before starting the course. This put them into a tactical frame of mind and reduced the amount of time needed at the first station, at which they were to camouflage themselves and their equipment.

At another station, the soldiers were to collect and report information using the SALUTE format. The station was on a small hilltop overlooking another station where other soldiers were performing operator maintenance on their weapons. These soldiers used binoculars to gather intelligence for their SALUTE report.

At the challenge and password station, soldiers entered friendly lines after negotiating a barbed wire and concertina obstacle. At each station soldiers were read tactical scenarios before receiving the task, condition, and standard of the task being tested.

Additional tasks were included to make the test more of an adventure. For example, because headquarters troops seldom have an opportunity to see or use the weapons and equipment regular infantry units use, stations were provided to expose them to a few: An M47 Dragon LET was set up and the soldiers engaged targets with it. At another station, a fire and maneuver course was set up and, using blank ammunition and hand grenades, the troops engaged simulated enemy positions and silhouettes.

Evaluators were told from the start to use their imaginations and make the stations as realistic as possible. But safety was a priority from the start. Caution statements were issued

when necessary, and ear plugs were provided for use around weapons. And because heat was a factor, water points were placed throughout the course.

The overall results of this year's test were positive. Because the unit NCOs were made a part of the planning process and given a free hand in preparing the stations, they showed considerable initiative in planning and executing the tasks assigned to them. And they learned to appreciate the value of planning ahead. The commander also now has a better understanding of where we stand on common tasks. More important, our soldiers were motivated to train hard and excel at the tasks assigned to them. Many of them, in fact, can't wait to do it again next year.

MICHAEL L. COLLIS
SFC, Training NCO
Orlando, Florida

VIETNAM VETERANS

As some INFANTRY readers may know, my first book, *Battle for Hue: Tet 1968* (Presidio Press, 1983), was based on interviews with 35 Vietnam veterans. A second book, to be published soon, is based on interviews with 90 Vietnam veterans who served in the 1971 invasion of Laos.

Now, I'm starting a third proposed book. In it I hope to chronicle the activities of the 1st Marine Division and the Americal Division in the area of Arizona Valley, the Que Son Mountains, and Hiep Duc Valley from 7 June to 7 September 1969. During this period the Marines were involved in several rough battles in the Arizona Valley, then shifted south into the Que Sons to assist the Army, which was fighting a bloody bunker-to-bunker action in the Hiep Duc Valley.

The Army units involved were the 2d Battalion, 1st Infantry; 3d Bat-

talion, 21st Infantry; 4th Battalion, 31st Infantry; 1st Battalion, 46th Infantry; 196th Light Infantry Brigade, Americal Division. Added to these were the 1st and 2d Battalions, 5th Marines, and the 1st and 2d Battalions, 7th Marines; the 1st Reconnaissance Battalion; the 1st Tank Battalion; the 1st Marine Air Wing; and various smaller units.

I would greatly appreciate hearing from any veteran of these operations as soon as possible so that we can arrange an interview, no matter how small his personal role may have been. Call or write me any time at 20 Kingsville Court, Webster Groves, Missouri 63119; (314) 961-7577.

KEITH WILLIAM NOLAN

PRE-D-DAY UNITS IN WALES

One week before D-Day, 6 June 1944, American servicemen were billeted in private homes in Ferndale in South Wales. I don't know which unit or units they were from or which division they belonged to. But they were made more than welcome here. In fact, my parents-in-law had one trooper billeted with them at No. 9 Elm Street, but we never heard about him or any of the others.

We knew about the terrible losses on Omaha Beach and have always felt that these Americans were there. Any information I could get on them would be greatly appreciated.

My brother was in the Bayeux, Le Havre, Turnhout liberation but, sadly, was killed in action near Nispen in southwest Holland. So you can understand my interest.

L. ANSTEE
1 Pleasant Hill
Ferndale Rhondda
Mid-Glam
South Wales CF 43 4SE

INFANTRY NEWS



IN THE ARTICLE titled "Echo Company: The Fifth Player" by Captain Michael S. Hackney, which appeared in our July-August 1985 issue (pages 20-24), we said that Captain Hackney had commanded an anti-armor company in the 25th Infantry Division.

As a reader can tell by the biographical data at the end of the article, Captain Hackney is assigned to the 24th Infantry Division.

We apologize to Captain Hackney and to the 24th Infantry Division for placing him in another unit.

THE EXPERT INFANTRYMAN BADGE Test manual, DA Circular 350-85-3, because of publication problems, will not become effective until 1 January 1986. (See INFANTRY, March-April 1985, pages 15-17.)

The current test using AR 672-12 (1 May 1983 with Change 1), Decorations, Awards, and Honors, Expert Infantryman Badge, and DA Circular 672-83-12 (1 July 1983), Decorations, Awards, and Honors, Expert Infantryman Badge Test, has been extended to 31 December 1985.

A HOT LINE FOR THE ARTEP mission training plan (AMTP) has been established in the Directorate of Training and Doctrine. The number is AUTOVON 835-AMTP (2687), or commercial 404/545-2687.

Units involved in the AMTP field trials are encouraged to use this line to leave messages that pertain to the Infantry School's prototype AMTP 7-247J-10 (Mechanized Infantry Platoon and Squad) and the supporting drill manual, FC 7-21. Units not directly involved in the AMTP field trials may also use this line to comment on or ask questions pertaining to any other

USAIS ARTEP product.

The Collective Training Branch, Training Division, DOTD, will return your call within two working days. Callers who require immediate information regarding the AMTP or other ARTEP products (except for light infantry division products) should call AUTOVON 835-4848/1317, or commercial 404/545-4848/1317.

Comments or questions concerning light infantry division products that require immediate responses should be addressed to the Light Infantry Task Force at AUTOVON 835-5298/5620, or commercial 404/545-5298/5620.

THE FOLLOWING NEWS ITEMS were submitted by the Directorate of Combat Developments:

• **Small Unit Radio (SUR).** The current small unit transceiver (SUT) program — AN/PRC-68 — was ended by Department of the Army during the fourth quarter of Fiscal Year 1984. The SUT was too expensive (\$2,500) and was not consistently reliable in an operational environment.

The Infantry School was then designated the proponent for the new SUR, which will be a non-developmental item (NDI) of equipment and considered a near-term substitute for the AN/PRC-68.

The SUR will cost approximately \$1,500 and will have certain operational characteristics, such as external tuning, longer battery life, and 2,320 channels, that were not available in the SUT.

INFANTRY HOTLINE

To get answers to infantry-related questions or to pass on information of an immediate nature, call AUTOVON 835-7693, commercial 404/545-7693.

For lengthy questions or comments, send in writing to Commandant, U.S. Army Infantry School, ATTN: ATSH-ES, Fort Benning, GA 31905.

A Request for Proposal (RFP) was presented in August 1985 to identify potential SUR candidates, and a test leading to a SUR selection will be conducted during this last quarter of this calendar year. The SUR is scheduled to be fielded in the fourth quarter of Fiscal Year 1986.

• **Combined Arms Mission Area Analysis.** The Directorate is preparing to undertake a combined arms mission area analysis in Fiscal Year 1986. Preliminary coordination has been made and methodology has been developed; modeling and analytical support will begin during the first quarter of FY 1986. The analysis is expected to run for several months.

All TRADOC schools are expected to participate in the analysis, with the major contributions being made by the maneuver proponent schools. This is the first time a mission area analysis has been developed from a combined arms viewpoint, and it is expected to yield significant results in the fields of training, doctrine, and materiel deficiencies.

THE COMBINED ARMS AND TACTICS Department of the Infantry School has given us the following doctrinal literature update (see INFANTRY, March-April 1985, pages 38-40):

• **FM 7-7J, The Mechanized Infantry Platoon/Squad (BFV).** Estimated DA pinpoint distribution in January 1986.

• **FM 71-2J, The Tank and Mechanized Infantry Battalion Task Force.** Final draft forwarded to CAC for approval, September 1985. Estimated DA pinpoint distribution in June 1986.

• **FC 71-6, Battalion and Brigade Command and Control.** Distributed in August 1985.

• **FM 90-4, Air Assault Operations.** Coordinating draft, August 1985.

- **FM 90-8, Counter guerrilla Operations.** Final draft forwarded to CAC for approval, July 1985.

- **FM 7-93, Long Range Surveillance Unit (LRSU) Operations.** Coordinating draft, September 1985.

Queries concerning the School's doctrinal literature program should be directed to Mr. Jim Gallagher, ATSH-B-ID, telephone AUTOVON 835-7162/4919 or commercial 404/545-7162/4919.

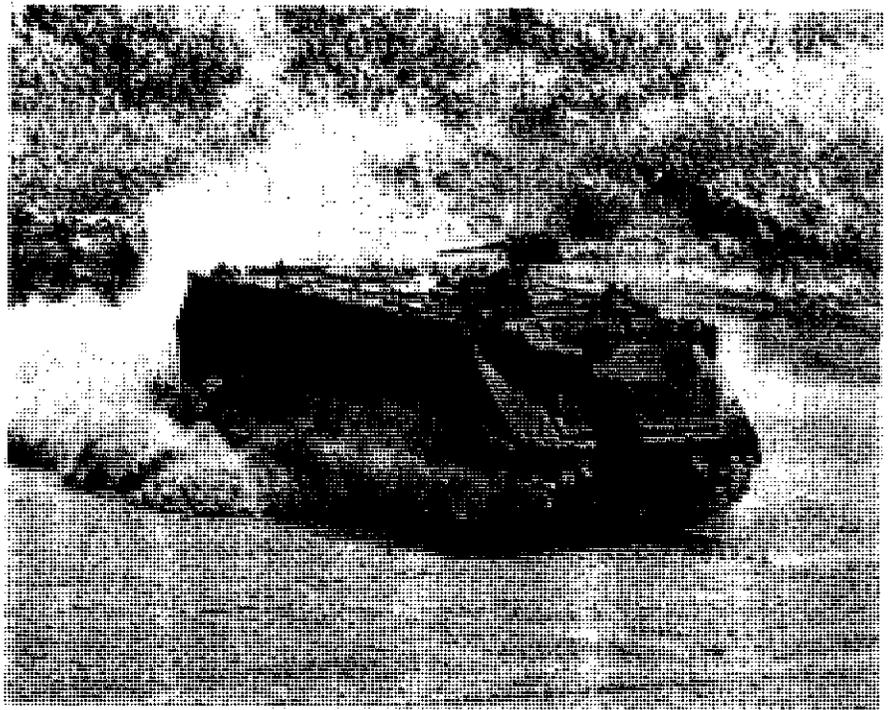
THE ARMY'S FLEET of M113 vehicles is again being modernized, and the new M113A3 vehicle is scheduled to start rolling off the production line in February 1987. It has a projected price tag of \$225,000 a copy, which is about \$65,000 more than the M113A2, but a number of extras have been added to give it a better combat capability. (See *INFANTRY*, January-February 1985, page 10.)

The new vehicle will have a 275-horsepower power train, which will give it better dash and cross-country speed and improved fuel economy, and will permit the addition of bolt-on space laminated armor inside the vehicle to improve troop survivability. In addition, the fuel tanks have been moved outside the vehicle, which will reduce the fire hazard within the vehicle in the event of a hit. The fuel tanks are now bolted on the rear of the vehicle and are protected by armor shielding.

The fuel tanks are identical and interchangeable, and can be rapidly replaced in the field if they are damaged. An automatic fuel control system permits the vehicle to operate even if one of the fuel tanks is damaged.

The removal of the internal fuel cell has increased the internal stowage space of the vehicle by 16 cubic feet; this added space can be used for additional ammunition or more crew equipment.

The M113A3 will have a steering yoke instead of steering laterals; this is expected to improve maneuverability, make the vehicle easier to drive, reduce driver fatigue, and make for safer operation. It has a maximum speed of 40 miles per hour and an average cross-



The M113A3.

country speed of 22 miles per hour. Its 95 gallons of diesel fuel give it a cruising range of 300 miles.

Modernization kits — engine, transmission, external fuel tanks, and inter-

nal spall suppressive armor system — will be purchased by the Army this fiscal year and next to upgrade a number of its M113A2s. The modernization work will be done at Army facilities.

THE ARMY IS REVAMPING its mortar structure. For example, the 120mm mortar will replace the 4.2-inch mortar in certain units, and the improved 81mm mortar and the 60mm light weight

company mortar systems will be fielded in all light infantry battalions and companies in the light infantry, airborne, and air assault divisions. Here is what the mortar structure will be:

TYPE UNIT	BATTALION LEVEL	COMPANY/TROOP
Armor and mechanized infantry battalions (modernized J-series TOE)	Six 120mm mortars	None
Standard infantry battalions	Four 120mm mortars	Three 81mm mortars (H-series TOE)
Light infantry battalions in the light infantry, airborne, air assault, and mountain divisions	Four 81mm mortars	Two 60mm mortars with crews
Ranger battalions	None	Two 60mm mortars with crews
Armored cavalry squadrons (Div)	None	Three 120mm mortars
Armored cavalry squadrons (ACR)	None	Two 120mm mortars

THE DIRECTOR OF THE National Infantry Museum has furnished the following news items:

Members of the 7th Armored Division honored their comrades on Memorial Day, 30 May 1985, with a floral tribute at the Museum. The standing arrangement in the shape of the Division's patch, was placed at the Division's monument on the Museum's grounds by Lieutenant Colonel Lon Maggart and Command Sergeant Major Felix Helms (both from the 2d Battalion, 69th Armor, which is stationed at Fort Benning) in the presence of some 200 visitors.

Memorial Day observances at the Museum also included the reading of a poem written by the late Medal of Honor recipient Audie Murphy. The framed poem, which Murphy wrote in 1948, is a recent gift to the Museum and has been added to its Medal of Honor collection.

The German section of the Museum's Foreign Gallery has been expanded through the display of a number of ceremonial items that belonged to Field Marshal Hermann Goering, commander of the *Luftwaffe* during World War II. One of the items is a diamond-studded baton, embellished with gold and silver emblems, and inscribed (translation), "The Fuehrer to the first Field Marshal General of the Air Force, Hermann Goering, 4 February 1938." Also displayed are a diamond-circled medallion, a large gold and silver document case, and a gold-hilted sword that was presented to Goering by the Italian Premier, Benito Mussolini.

Another piece of Nazi memorabilia recently given to the National Infantry Museum is a linen table napkin that belonged to Hitler's Minister of Foreign Affairs, Joachim von Ribbentrop. The fine linen napkin, delicately embroidered with a design that features the Nazi emblem, will be displayed along with pieces of china, also from the Nazi period.

The reference library at the Museum continues to grow. Unit histories are a valued part of the collection, and several have been received in recent months. A substantial number of works on the American Civil War, including

books on Generals Grant, Sherman, and Sheridan as well as on specific campaigns of the war, have also been received. Other donations include books on uniform items from the World War I and Vietnam War periods.

The 5th Annual Infantry Museum Road Race will be held at Fort Benning on 12 October 1985. The race, one of the largest road races in the Southeast, has raised approximately \$50,000 for the Museum during the past four years. The entry fees are \$5.00 per individual and \$35.00 per seven-man team.

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

Additional information about the Museum and the Society is available from the Director, National Infantry Museum, Fort Benning, GA 31905-5273, telephone AUTOVON 835-2958 or commercial 404/545-2958.

THE PRESIDENT OF the United States Army Infantry Board has given us the following news items:

• **Extended Cold Weather Clothing System (ECWCS).** This system was developed as a result of a continuing program to design an integrated individual fighting system that reduces the weight of a soldier's load while giving him better environmental protection over a wide range of climatic conditions. (See *INFANTRY*, September-October 1984, page 6.)

The ECWCS is a head-to-toe cold weather clothing system that weighs less than the current Standard A cold weather clothing but gives a soldier increased protection. It consists of:

• A battle dress uniform cap and a nomex balaclava.

• Two systems of handwear — a fiber-pile trigger-finger mitten insert with a five-finger contact glove, and a five-finger polytetrafluoroethylene (PTFE) glove — that can be used with the standard extreme cold weather mitten with liner and with the trigger-

finger mitten.

• The standard white vapor barrier (VB) boot with cushion sole socks and polypropylene (PP) liner socks.

• A PP long sleeve, turtleneck undershirt and PP long underpants.

• A nine-ounce fiber-pile shirt.

• A PTFE parka with hood.

• The standard field trousers.

• PTFE trousers.

• Two varieties of a removable extreme cold insulating layer (four-ounce polyester batting liners for the field coat and field trousers, used in conjunction with fiber-pile bib overalls and six-ounce polyester batting liners for the field coat and field trousers).

• The standard overwhite parka, trousers, and mittens.

• A fur ruff hood.

The Infantry Board conducted the most recent test of the ECWCS at Fort Wainwright, Alaska, from 18 February to 8 March 1985 to evaluate its military utility in an arctic environment. Soldiers from the 6th Battalion, 172d Infantry Brigade took part in back-to-back five-day field exercises, and their previous arctic experience paid immediate dividends as the temperature ranged from a high of minus 26 degrees Fahrenheit to a low of minus 70 degrees Fahrenheit.

Following the field exercises, airborne operations were conducted on a drop zone covered with four to five feet of snow.

The ability of the soldiers to perform selected MOS and ARTEP tasks while wearing the ECWCS and its compatibility with the fighting loads and other equipment carried by the soldiers were evaluated by observation, questionnaire, and interview. In addition, the Cold Regions Test Center concurrently conducted an extended wear and durability test of the ECWCS.

The test results will be used by the Infantry School in making recommendations concerning type classification.

• **Rocket, HE, 84mm XM136 (AT4).** As armor technology continues to improve, so must the effectiveness of the Army's family of antiarmor weapons. For some time the current lightweight antiarmor weapon, the M72A2 LAW, has been known to be

limited in both its range and its penetration capability.

Because of its concern for the increased armor threats and the rising research and development costs of lightweight antiarmor weapon systems, the Senate Appropriations Committee in 1982 directed that the Army begin testing available foreign and domestic light antiarmor systems.

From March through May 1985, the Board conducted an operational test to provide data and associated analysis on the effectiveness of the AT4, an 84mm, high explosive, light antiarmor weapon. The test results will be used to support decisions on whether the AT4 is suitable for Army and Marine Corps use.

The AT4 is a self-contained, lightweight, disposable weapon that is issued as a round of ammunition. It consists of two major components, the launcher and the cartridge. (See *INFANTRY*, January-February 1985, pages 9-10, and *INFANTRY*, March-April 1984, pages 20-21.)

The launcher is a fiberglass-reinforced smoothbore barrel equipped with an aluminum venturi, a firing mechanism, front and rear rifle-like sights, and a carrying sling. The cartridge consists of a shaped-charge, fin-stabilized projectile and cartridge case assembly.

The AT4 system includes a 9mm training device consisting of a single-shot breech and barrel assembly contained within an AT4 launcher. Nine millimeter (9mm) tracer cartridges with downloaded propellants designed to have a trajectory similar to that of a tactical round are used with the training device.

Using training strategies developed by the Infantry School's Directorate of Training and Doctrine, soldiers from the 197th Infantry Brigade and Marines from the 2d Marine Division, Camp Lejeune, North Carolina, formed a composite test platoon. They employed the AT4 in a series of realistic infantry field exercises based on Army Training and Evaluation Program (ARTEP) requirements.

The test soldiers engaged moving and stationary armored targets at

ranges of 150 to 500 meters and at speeds of 0 to 15 miles per hour during daylight and darkness (under illumination). The target vehicles were M47 tanks and M114 reconnaissance vehicles known as remote controlled target vehicles (RCTV). These computer-controlled, programmable vehicles, on loan from Fort Carson, Colorado, allowed the test soldiers to fire live tactical warheads at attacking and withdrawing armored vehicles without risk to vehicle crews.

Airborne operations were also conducted using a special AT4 jump pack designed by the Natick Research and Development Center. Infantry School, Infantry Board, and Marine Corps parachutists made jumps from C130, C141, UH1, and UH60 aircraft.

Airmobile and air delivery operations using UH1 and UH60 aircraft were also conducted, as were vehicle operations using M113 and Bradley vehicles. These tests were conducted to determine the AT4's compatibility with those aircraft and vehicles.

Throughout all of the testing phases, questionnaires and interviews were used to collect subjective data from the testers and the test participants. The results of the operational test will be used by the Infantry School and the Marine Corps Development and Education Command to support their recommendations concerning the suitability of the AT4 to fill the role of a light antiarmor weapon for the Army and the Marine Corps.

• **Optical Sights, M16A2 Rifle.** In late 1986 the Army will receive its first delivery of M16A2 rifles, but soldiers may find that they do not look like the M16 rifles they have been using. (See *INFANTRY*, July-August 1985, page 10.)

In September 1984 the Army awarded a contract for the design and construction of a prototype "enhanced" M16A2 rifle with an integrated sight base that would permit the mounting of either day or night optical sights. The Army's Test and Evaluation Command has indicated that the new rifles should be delivered in the desired configuration — either with the standard carrying handle or with the optical

sight mounting base on the upper receiver.

The weapons that arrive in late 1986 may incorporate the optical sight feature after the Armament Research and Development Center (ARDC) has completed its evaluation of the data the Infantry Board collected during a recent test of the modified M16A2 rifle and six different optical sights.

Twenty-four soldiers and ten Marines took part in the test during the period 7 March to 23 May 1985. Each of the 34 firers was trained in the use and maintenance of the M16A2 rifle with the standard iron sights and the modified M16A2 rifle equipped with the various optical sights.

The optical sights, mounted on the rifle by commercial scope mounting rings, included both 2.5X and 6X telescopes with cross hair reticles, a 1X (unity) reflex sight with aiming point reticle, a 1X (unity) reflex sight with a 3X attachment and aiming point reticle, a 3.5X telescope with illuminated T reticle, and a 4X telescope with illuminated post reticle.

Each of the firers, using the standard M16A2 rifle with iron sights and the modified M16A2 rifle equipped with each of the optical sights, took part in a series of nonfiring target acquisition exercises during day, night, dawn, and dusk hours, and during a series of day live fire target engagement exercises.

The target acquisition exercises used live personnel targets positioned up to 1,000 meters from the observers during the day and as far as 300 meters under other light conditions. The live firing was done to collect hit data for targets engaged at known distances ranging from 50 to 580 meters, and for targets at distances unknown to the firers but which were from 50 to 300 meters downrange.

To place additional stress on the firers, a number of the exercises required that they be completed within a limited period of time.

Human factor and safety data were collected throughout the testing program.

The test results will be used by ARDC to decide whether the M16A2 rifle should be modified to permit the

mounting of an optical sight.

• **XM40 CB Protective Mask and US-10 Respirator.** The need has long been recognized for a protective mask that provides more protection against field concentrations of all chemical and biological agents in vapor and aerosol form. As early as 1974 the Army approved a requirement document for a mask to replace the M17A1 (basic field use), the M9A1 (special purpose use), and the M25A1 (combat vehicle crewman) protective masks. In 1978, all of the services joined in approving a Joint Service Operational Requirement for a new mask.

Since then, a number of masks have been developed and tested, including the XM29 unimolded silicone facepiece with integral lens; the XM30 family of masks with the single bubble polyurethane lens; and the minimum change/minimum risk (MC/MR) mask design, which combined desirable features from the M17A1 and XM30 masks.

A refined MC/MR, designated the XM40, and the British S-10 respirator were evaluated during tests in 1983 and served as the basis for modifications that evolved into two XM40 designs and the US-10 respirator.

Each design is a family of protective masks that includes masks for basic field use (XM40A, XM40B, US-10), for special purpose use (XM40A and B SPM, US-10 SPM), for use by armored crewmen (XM42A and B, US-12), and for use by air crewmen (XM41A and B, US-11).

The basic XM40 mask design includes a silicone rubber faceblank with molded-in head harness buckles, in-turned peripheral seal, six-point adjustment head harness, rigid lenses mechanically attached to the faceblank, a front and a smaller side voice-mitter, and a cheek-mounted filtration canister that can be interchanged with the side voice-mitter and worn on either side.

The XM40SPM is similar to the basic design, but its side voice-mitter has been replaced with an additional inlet valve assembly and filtration canister. The XM42 also parallels the basic design and allows the armored crewman

to hook up to his vehicle's on-board gas particulate filter unit; in addition, it has an internally mounted microphone and can be connected to a vehicle's communication system.

Variations between the XM40A and the XM40B designs are basically dimensional. The design configurations of the US-10 family of masks parallel those of the XM40, but the masks are molded from a chlorobutyl elastomer compound and have patented rigid binocular lenses.

The operational effectiveness of the XM40 and US-10 field masks and their variants for special-purpose use and for armored crewmen was compared with that of their respective standard counterpart masks — M17A1, M9A1, and M25A1 — during a test conducted by the Board from 19 February to 7 June 1985. The testing was done under tactical conditions in a simulated chemically contaminated environment. It involved soldiers from mechanized infantry platoons, 81mm and 107mm mortar sections, and TOW sections, drivers of tracked and wheeled vehicles, mechanics, parachutists, and EOD personnel.

The test participants alternately wore their standard protective masks and, in turn, each of the corresponding masks from each family of masks while performing combat and combat support tasks. Exercises included negotiating an obstacle course, conducting wheeled and tracked vehicle operations, employing and firing individual and crew-served weapons, and conducting platoon level field exercises and EOD and airborne operations.

Data was collected in the areas of functional performance, compatibility, training, human factors, safety, logistical supportability, reliability, availability, and maintainability. The test results will be used in arriving at a procurement decision.

BRADLEY INFANTRYMEN from the 3d Infantry Division were the first in Europe to use their vehicles and on-board weapons in live fire aerial gunnery training. The training took place at Todendorf on Germany's north coast.



Bradley crewmen from throughout the division were selected by their units to attend the week-long exercise, which was preceded by a week of ground gunnery training at the nearby Putlos training area. Air Defense Artillerymen served as technical advisors.

Several Bradley master gunners and crew members recorded and compiled data on all Bradley crew firing performances. This information will be forwarded to Department of the Army to be used in Bradley aerial training improvements.

THE VOICE OF THE ARMY NATIONAL GUARD is open for business, providing toll-free information to any Guard member who wants to know more about a wide range of current subjects.

The information is available 24 hours a day; the number is 1-800-245-0055. A similar, but more limited, service had been available to Guard members in the past but under a different telephone number.

The calls are answered in the National Guard Bureau with a recorded introductory message and instructions for selecting a topic of interest. Those who wish may leave a short recorded message or question at the end of the presentation.

The system can be activated only by touch tone telephones. Those individuals who dial the toll-free number with a rotary or pulse phone will hear only the introduction and will not be able to gain access to the selected topics or leave messages.

The program coordinator welcomes suggestions on the system. His number is AUTOVON 227-3065 or commercial 202/697-3065.

FORUM & FEATURES



First Jump in China

BRIGADIER GENERAL BERNARD LOEFFKE

- *The People's Liberation Air Force will provide parachute.*
- *The People's Liberation Air Force will provide airplane.*
- *The People's Liberation Air Force will take action to ensure safety of jump.*
- *General Loeffke will examine and pack the parachute himself.*
- *In case of accident, neither side will blame the other.*

These were the initial ground rules set forth when I was invited to be the first U.S. officer to jump with the Chinese People's Liberation Army (PLA) during my tour as Defense Attache to China. The fourth ground rule was eventually modified. (Like the Soviets, Chinese paratroopers are assigned to their country's air force. The Chinese People's Liberation Air Force is subordinate to the PLA.)

The jump was to take place during the period of 9-13 May 1984 in Wuhan Military Region, about 200 miles south of Bei Jing. To coordinate the various details of the jump, a meeting was arranged with Chinese parachute officers on 4 May. The exchange at that meeting went something like this:

Parachute Officer (PO): "General, we want to assure that you have a safe jump with us. We want, therefore, to ask you several questions. Finally, we

need to agree on the wording of a document that we will both sign. First, please tell us your desires concerning the altitude of the jump and the speed of the aircraft."

Loeffke (L): "I wish to jump the way *you* normally jump."

PO: "It is agreed then that we will jump at an altitude of 800 meters and at a speed of 180 kilometers per hour. We should now agree on the letter we are asking you to sign. We agree to provide a safe aircraft and assure that safe conditions exist on the ground — that is, no obstacles and moderate winds. You will be responsible for packing and using your own parachute."

L: "I wish to jump Chinese parachutes packed by your riggers."

PO: "We would rather you jump your own parachute packed by yourself. We will, however, discuss your wishes to jump Chinese parachutes. Our concerns are that our chutes are different and you may not be familiar with their handling. What personal equipment do you need?"

L: "I have uniform and boots, but will need a helmet."

PO: "We will provide you a helmet. Do you have your own knife?"

L: "No, what do you use the knife for?"

PO: "We use it to cut our straps in case we have problems such as becom-

ing entangled with the airplane."

It was obvious that the Chinese were concerned with the safety of the jump. They finally agreed, however, to let me use a Chinese chute for my jump.

During the discussion, I learned that their methods differ from ours in several ways. For example, the jumper needs to hold the Chinese reserve chute tightly as he exits the aircraft or it may come up and hit him in the chest or chin. Also, the knife is needed because the Chinese parachute has no capwell releases. In the case of an entanglement with the aircraft, therefore, the parachutist cannot be hauled in and is expected to cut the straps where the capwell releases are on the U.S. chutes. The paratrooper then falls free and uses his reserve chute.

All Chinese paratroopers pack their own chutes. Each is assisted by a colleague, and every platoon has a specialist who oversees the packing. It takes about 30 minutes to pack a chute. They have no special area to use. There are no parachute packing sheds; they simply use a parade ground or the floor of a warehouse. A parachute is used about 80 times before it is cannibalized for other purposes.

Interestingly, there are no special riggers for equipment drops either. The artillery battalions assigned to each regiment, for example, are re-



Members of Chinese PLA double check General Loeffke's parachute before jump.

sponsible for packing the parachutes of the organic artillery that will be dropped.

Jump procedures are equally challenging. Chinese paratroopers exit the aircraft falling forward, body bent almost perpendicular, never touching the door of the aircraft with their hands. Chinese soldiers fold their arms on top of the reserve chute, while U.S. soldiers place their hands to the sides of the reserve and jump up and out. The Chinese have a pilot chute on their main parachute, but none on the reserve, while U.S. parachutes are configured just the opposite. The signals to exit the aircraft are similar, however. A red light with an intermittent noise signal advises the troops to get ready and hook up. A green light and a continuous signal is the command to jump.

Parachute landing instructions are vastly different. U.S. soldiers are taught to face into the wind to slow down the horizontal speed of the chute. The Chinese face downwind so that they can land facing forward and run and collapse their canopies.

The U.S. soldier, until recently, has been taught to look to the horizon so that he will not unconsciously tighten up when he hits the ground in a close, bent-leg, parachute landing fall, rolling to either side. He lets buttocks and push-up muscles take up much of the

impact of the fall. The Chinese soldier looks at the spot where he is going to land and lands on his feet with knees bent, and then starts running.

On 11 May, I was introduced to these airborne procedures and given a demonstration of the Chinese methods of exiting the aircraft and of landing. After the demonstration, I was taken to the military airport to meet the pilots and crew who would be responsible for the jump from a four-engine, Soviet AN-2 aircraft.

The next day, the day before the jump, two officers, accompanied by the Airborne Division Chief of Staff, came to the hotel to pack my parachute. After the packing was completed in the lobby of the hotel, I was asked to sign a statement to verify that I was satisfied with the way the chute was packed. Two Airborne Division doctors then came to my hotel room to take a blood pressure reading and conduct an electrocardiogram. One of the physicians examined me to assure there were no sprains or lumps. Finally, the two doctors agreed that I was fit to jump.

The wind on the day before the jump was gusting up to 50 miles per hour. On the morning of the jump, the wind was still too strong, and the jump was delayed for eight hours. As the jump hour approached, the wind was still gusting up to 20 miles per

hour, well beyond allowable U.S. training safety standards, but within limits for the Chinese.

Finally, the time for the jump arrived. As the AN-2 reached 2,400 feet, one of the soldiers who had seen me exiting from the mock door earlier leaned over and whispered: "General, if you jump the way you did at the mock-up, you will get twists in your risers. To jump safely with our chute, you must not touch the sides of the door and spring out of the aircraft." But it was too late then to change habits, so I jumped the U.S. way. Sure enough, when the chute opened, the risers had several twists in them.

The descent was somewhat unusual. Two Chinese jumpers leaped right behind me and flanked me coming down. They were there to give me directions so I would not drift from where they wanted me to go. The ground was soft mud so even with the strong wind the landing was uneventful. Thus ended the first U.S. Army/Chinese PLA parachute operation.

Some interesting airborne lessons were learned on both sides. The Chief of Staff of the Airborne Division later told me that after seeing our parachute landing falls, he was going to consider adopting these techniques. He also felt that our static line was better and that they needed a quick release like the one we used.

Among other subjects that I felt the Chinese might explore in detail was the relative merits of landing with and against a 20-mile an hour wind.

All in all, for me this was a most rewarding experience. We and the Chinese have much to learn from each other.



Brigadier General Bernard Loeffke is Chief of Staff, XVIII Airborne Corps at Fort Bragg. In addition to his service as Defense Attache in China, he also served as Army Attache to the U.S. Embassy in Moscow. He served three tours in Southeast Asia.

The MRP Works

CAPTAIN THOMAS A. PERSON, JR.

The maintenance rally point (MRP), which is part of Division 86 doctrine, can be applied successfully today. It is a time-saving asset that could turn the tide of battle by decreasing the down-time of mission-essential vehicles and equipment. The 1st Battalion, 5th Infantry, at Schofield Barracks, Hawaii, has employed this concept on three major deployments from the island of Oahu and has found that it works quite well.

The fundamental idea behind the maintenance rally point (MRP) is to find and repair damaged items of equipment as quickly as possible and return them to the forward units. The MRP shuns the traditional notion of co-locating maintenance repair with the combat trains. Instead, the MRP floats in covered and concealed positions four to six kilometers behind the FLOT (forward line of own troops) and frequently moves forward to locate and repair or recover vehicles. To make this "repair forward" maintenance operation work, it is important for leaders to understand its capabilities and for all other personnel to understand their respective missions.

The essential elements of the battalion maintenance section are divided into two parts, the maintenance rally point and the field trains. The specific break-out of personnel and equipment will vary depending upon a unit's assets.

In this battalion's case (operating in a light infantry division), the MRP is manned by the battalion motor officer, the battalion motor sergeant, a wrecker operator, a welder, three mechanics (63B), and one NCO. It has a quarter-ton truck with tow bar, a five-ton wrecker, and a two-and-a-half-ton PLL truck.

The field trains are manned by a battalion maintenance technician, a shop foreman (staff sergeant), a PLL clerk, a TAMMS/dispatcher clerk, and the remaining three mechanics. Its vehicles are a one-and-a-quarter-ton truck with RTO equipment, and two two-and-a-half-ton trucks with maintenance tents.

The process begins when the unit that owns a non-mission capable (NMC) vehicle contacts the MRP and provides a description of the malfunction. This is usually done by radio on the battalion administration-logistics (ALOG) net. The battalion motor officer (BMO) then goes to the vehicle with a trained mechanic and tries to determine what the problem is.

TIME

The time standard against which the BMO must work is the "time-to-repair guideline" established by the battalion executive officer and the battalion logistics officer (S-4). (The standard this battalion uses is two hours, and whenever possible the vehicle is repaired on the spot.) If the repairs are likely to take longer than that, or if the vehicle cannot be repaired on site, the BMO sends it to the MRP.

Vehicles in the MRP are also subject to the time-to-repair guideline, usually four to six hours. The unit also coordinates with the direct support maintenance company of the forward support battalion so that a direct support contact team can be co-located with the MRP. This allows limited direct support level repairs to be made and further reduces the amount of time a piece of equipment is away from the

front lines. Vehicles that are repaired in the MRP are then returned to the owning units.

If the repairs cannot be completed in the MRP within the time guideline, the equipment is evacuated to the more conventionally configured maintenance section located in the unit field trains. If time permits, the BMO evacuates it with the five-ton wrecker stationed in the MRP. The BMO does have the option of calling the battalion maintenance technician forward from the field trains to free the MRP, but in nearly 75 percent of the cases in the battalion's exercises, the MRP has evacuated a vehicle because the damage to it called for it to be lifted by a wrecker. The mission of the maintenance section in the field trains is to conduct repair operations at the organizational level and to evacuate items of equipment that must go to higher maintenance levels for repair.

The logistics of a highly mobile, well forward MRP can be difficult to manage. For example, it is necessary to decide how much of the prescribed load list (PLL) is to go with the MRP and how much is to remain in the unit field trains. As much as half of the combat PLL may be needed in the MRP to maintain the repair rate necessary to support the tactical mission adequately. Along with PLL, direct exchange items such as tires, radiators, and power-generation equipment must be available in the MRP. And with so much happening at once and so much to consider in the planning stages, it is easy to see why the battalion motor officer must be technically and tactically prepared to do this demanding job. In the MRP he may be required to repair, cannibalize, and evacuate items of equipment at the same time he is

displacing to a new position or defending his present one.

The BMO is also given some straight-forward guidelines that establish vehicle repair priorities. On occasion, it may be necessary for him to "down" some vehicles to keep the battalion's mission-essential vehicles "up." The priority guidelines will vary depending on the type of battalion and the battalion's mission. A motor officer, however, must be allowed to modify the established priority on the basis of what is damaged or destroyed. (In most cases, he knows the true status of combat power within the unit before the tacticians do.)

In general practice, the MRP and the combat trains will rarely be co-located because of the number of "customers" and vehicles associated with the combat trains. The addition of the MRP with its frequent "service calls" would only increase the signature

of the combat trains and make its location a lucrative target. Depending on unit assets and the particular tactical scenario, though, it may be necessary to co-locate the two for security reasons during the hours of darkness.

The maintenance rally point must be highly mobile and self-supporting, and it must be able to defend itself initially. A major problem for any unit is preparing its maintenance personnel to conduct sustained combat operations over an extended time and distance. The soldiers in an MRP must be able to work and move over a considerable area, frequently for days at a time, with little or no rest and few personal comforts. Accordingly, careful plans must be made for rations, water, additional petroleum products, and crew-served weapons to ensure the continued health, high morale, and effectiveness of the soldiers who must man a maintenance rally point.

Using the "fix far forward" principle, the 1st Battalion, 5th Infantry, during Team Spirit '83 operated over considerable distances, but never had more than two vehicles down at any given time.

It should be noted, however, that the ultimate success of forward maintenance in a unit is dependent upon an effective unit maintenance program. Without one, there is no system that can solve a maintenance problem either in training or in combat.



Captain Thomas A. Person, Jr., recently completed the Infantry Officer Advanced Course and is now in the degree completion program. He formerly served as battalion motor officer and battalion S-4 in the 1st Battalion, 5th Infantry in Hawaii.

The Enfield Rifle: Death of an Old Friend

CHARLES R. FISHER

The first time I ever saw an M1917 Enfield rifle was when the supply sergeant of Company E, 7th Battalion, Maryland State Guard handed me the weapon that was to be mine while serving in that unit during World War II. Until then my concept of a service rifle was either the M1903 Springfield or the then relatively new M1 Garand. I had never heard of the M1917 even though thousands of them had been in war reserve storage since the end of World War I.

When I asked the sergeant why the unit used Enfields rather than Springfields he replied, "Because we can get 'em." Until the sergeant enlightened

me, it had never occurred to my 17-year-old mind that there could be such a thing as a shortage of standard service arms in a great nation such as the United States. Therefore, I was introduced that day not only to the M1917 rifle, but to the fact that even wealthy and powerful nations can be caught short of crucial war equipment.

Perhaps it was appropriate that my introduction to the Enfield should come under such circumstances — the weapon had been hastily adopted by the U.S. Army during World War I precisely *because* the nation had been caught short of enough Springfield rifles to arm its rapidly expanding

forces. In any case, it was love at first sight, and I have been an admirer of the M1917 ever since.

Granted, the M1917 was a little on the heavy side (9.0 pounds, compared to 8.7 pounds for the Springfield) and a little long (the barrel was 26.0 inches long compared to 23.79 inches for the Springfield), but it had sleek, almost elegant lines for a military rifle and, with its swept-back bolt handle, had a racy, streamlined appearance that made it look years ahead of its time. Furthermore, it was strong, of high quality workmanship, and capable of handling the powerful .30-06 cartridge.



Soldiers of the 2d Battalion, 329th Infantry, during rapid fire portion of their Enfield rifle instruction, France, 1918.

A major disadvantage of the Enfield was a belt sleeve design that could permit hot gasses under pressure to traverse its length if a primer was punctured. These gasses could then escape through the rear of the bolt and do considerable damage to a shooter's eye. Although a punctured primer was relatively rare, some soldiers no doubt learned the hard way about this design idiosyncrasy.

Another slight disadvantage of the Enfield applied only to soldiers who had to drill with the weapon. Since there was no magazine cut-off on the rifle, the follower would pop up when the bolt was opened for the command "Inspection, Arms!" The bolt could not be closed until the follower was depressed — a movement not included in the manual of arms. A sheet steel device that could be inserted in the magazine to hold the follower down eliminated this problem, although the device had to be taken out of the piece before charging the magazine.

Among the many virtues of the M1917 was its great strength. Along with the Japanese *Arisaka*, it was one of the strongest rifles of its day. For this reason many M1917s were converted to magnum calibers when the rifles appeared on the surplus market after World War II. (Lamentably, this also guaranteed that relatively small numbers of them would survive to the present in their original military condition.)

The rear sight, although not adjustable for windage, used a large aperture mounted on the receiver bridge close to the shooter's eye. In fact, the M1917 was one of the first military rifles issued in large numbers that used a true aperture sight. The battle sight aperture was calibrated for four hundred yards. Therefore, soldiers using the Enfield had to learn to hold their aim under the target at shorter ranges. The leaf sight was scribed at intervals for ranges varying from 200 to 1,600 yards. From 200 to 900 it was graduated in intervals of 100 yards. From 900 to 1,600 yards the scribed lines represented changes of 50 yards. The leaf sight did not compensate for the drift of the bullet at long range.

Although its sight was not as sophisticated as the sight on the M1903 Springfield, the position of the Enfield's aperture was just right to make the sight one of the best combat rifle sights ever developed. (Fortunately, many newer weapons such as the M1903A3, M1, G3, M16 and others use the same rear sight location as the M1917.)

Other virtues included a sleek one-piece full length walnut stock, excellent materials (for the 1917-18 period), and an attractive finish. In terms of materials used in its manufacture, the M1917 was ahead of the M1903 Springfield. For example, all three manufacturers of the M1917 used nickel steel in the fabrication of the receiver whereas

M1903 Springfield rifles produced at Rock Island Arsenal used heat treated carbon steel receivers until 1918 and Springfield Armory did not make the change to nickel steel until 1927.

My introduction to the M1917 came about as the result of a curious and complex set of circumstances. After the outbreak of World War II in December 1939, a nervous America kept a close watch on events in Europe and Asia. Although the U.S. was not yet involved in the struggle, Congress ordered the National Guard to active Federal service in September 1940. The National Guard units took their rifles with them, of course, when they reported for active duty. Congress, in October of the same year, then authorized those states that so wished to organize state forces for home defense. The War Department was ordered to help the states train and equip these state guard forces.

Part of the equipment made available to the states were M1917 rifles taken from war reserve stocks. An issue of these rifles was authorized at one rifle for each two National Guardsmen then on active Federal service. All told, 111,276 Enfields were earmarked for use by the 48 states. After the United States entered the war on 7 December 1941, the Army recalled the M1917s from the state forces but then began to re-issue them in 1944 when more modern military weapons became available in sufficient quantities for the active forces. My M1917 rifle was a part of this 1944 re-issue.

The actual conception and birth of the M1917 took place before World War I when the British government decided to replace the SMLE (Short Magazine Lee Enfield) .303 (later renamed the Rifle No. 1, Mark III) with a stronger Mauser-type rifle. It also decided to replace the aging .303 rimmed cartridge with a more powerful rimless round. In 1910 design work on the rifle commenced, and three years later the Pattern 1913 rifle and the powerful .276 (also referred to as .280) cartridge were officially accepted by the British.

The P13, as it was called, was almost identical to the later M1917 except for

its .280 caliber and its chambering, and it was a true product of its time. The swept-back bolt handle was intended to place the handle close to the trigger to facilitate rapid fire, because the British had observed the devastating effects of rapid rifle fire during their colonial wars of the 19th century. Winston Churchill, for instance, spoke of the "rifle storm" unleashed by the British infantry against the Mahdist forces at the battle of Omdurman in 1898.

Most primitive enemies cooperated magnificently with the British by deploying *en masse*, thereby presenting a target six feet high multiplied by the width of the enemy formation (at Omdurman, the Khalifa's army presented a front nearly three miles wide.) Even a mediocre rifleman could place nearly every bullet in a target such as this. The fact that a future European enemy might wear *feldgrau* uniforms, fight from trenches, and use machine-guns to provide its volume of fire did not diminish the British desire for a weapon that could deliver a great volume of rapid fire. And the P13 could do that.

Another feature of the P13 was its firing mechanism, which completed most of the cocking action on the closing stroke of the bolt. The Mauser, from which the P13 was largely copied, used the opening action of the bolt to cock the piece. The British apparently felt that the full force of the opening stroke should be reserved for extracting the fired cartridge case. This would be especially true when firing in gritty or sandy conditions. Again, the British experience in Africa, India, and the Sudan seems to have influenced this design feature of the P13.

Before many P13 rifles could be manufactured, though, the British entered World War I in August 1914. Since the overwhelming bulk of the British armed forces carried the older SMLEs in .303 caliber, the British ordnance people wisely decided that it would be best to keep both the .303 round and the SMLE in production. They also decided to continue production of the P13 but in .303 rather than .280 caliber to simplify ammunition

supply. This new combination of rifle and cartridge became the P14.

Most of the P14 rifles were manufactured by contractors in the United States, the largest of which were the Remington Arms Company of Illion, New York; the Winchester Repeating Arms Company, New Haven, Connecticut; and the Midvale Steel and Ordnance Company of Eddystone, Pennsylvania. In theory, the three plants could produce a total of about 11,000 rifles per day, although they never reached this figure while working under the British contracts. The contracts themselves were terminated between 1 June and 21 July 1917, and this proved fortunate for the United States, since we had declared war on Germany in April 1917 and were in desperate need of weapons.

WAR EMERGENCY

The war emergency required the rapid enlargement of the U.S. armed forces. By November 1918 nearly five million men were in these forces with about four million of them in the Army.

There were about 600,000 M1903 Springfield rifles on hand in April 1917, not enough to arm the gigantic force contemplated, and the Springfield Armory and the Rock Island Arsenal could not begin to meet the demand. American industry no doubt could have produced enough Springfields if they had had enough tooling time. But in 1917 little lead time was required for Remington, Eddystone, and Winchester to begin making Enfield rifles — their plants were already tooled and equipped for the manufacture of the P14. Therefore, the caliber of the P14 was changed to .30-06, the necessary minor adjustments were made, and a new rifle was born — the U.S. Rifle, Caliber .30, Model of 1917, or, as the soldiers called it, simply "the Enfield." ("Enfield" comes, of course, from the rifle's British heritage — many British weapons were made in Enfield, England.)

Since there were many thousands of Springfield rifles on hand (and Spring-

field production continued during the war adding more thousands), the War Department decided to issue Springfield rifles to Regular Army and National Guard units but Enfield rifles to the National Army. The latter consisted of some 17 divisions that had been created out of nothing after April 1917. Many (but not all) of the men who enlisted or were drafted after the outbreak of hostilities were assigned to National Army units.

During World War I, Remington produced 545,541 Enfields at its Illion works, Eddystone built 1,181,908, and Winchester made 465,980 more. During the height of its manufacture, M1917 output reached nearly 10,000 rifles a day. This compared with production rates for the M1903 Springfield of 1,200 a day at the Springfield Armory and 400 a day at the Rock Island Arsenal. In fact, the manufacture of M1917s actually exceeded the promised rate of production.

Enfields poured off of the production lines in such numbers that by 1 January 1918 there were enough in each National Army camp to equip every man authorized to carry a rifle. Because of the shortage of M1903 Springfields, four camps of National Guardsmen were not equipped with Springfields and presumably received Enfields instead.

With the coming of peace in November 1918, most of the M1917s went into storage as war reserve arms. The Army toyed briefly with the idea of adopting the M1917 as its official rifle, but this concept never got very far.

The cosmoline-coated Enfields reposed in storage for the next 20 years waiting for a new war and a new generation of soldiers to clean out the preservative grease and put them to deadly use again. But since the Army adopted the semi-automatic M1 in 1936, the M1917 was considered obsolescent by the time World War II started. Thus, it was relegated to training and state guard use during the war years. Some Enfields did see combat with the Philippine Army and other allied forces, but for the most part the sturdy old rifles contributed to victory as training devices instead of as weapons. After World

War II, thousands were sold by the Director of Civilian Marksmanship to National Rifle Association members.

My first affair with the M1917 was entirely too brief. After a few months I was drafted out of the Maryland State Guard and into the Active Army, and I had to turn in my beloved Enfield before leaving for active duty. Since I had drilled with my M1917 each week and had fired both ball and blank ammunition in it on several occasions, parting with this rifle was difficult.

After entering the Active Army, I had many opportunities to use the M1 Carbine, the M3 "grease gun," and the

legendary M1 rifle. Today, as a member of the Maryland National Guard, I qualify each year with the M16A1 rifle. All are good weapons and certainly of a more modern design than the M1917. But I never see an Enfield without slipping back in memory to the state guard and night maneuvers on the upper Potomac near White's Ferry (of Civil War fame) or hearing the ghostly crackle of musketry and smelling smokeless powder as we blazed away with our Enfields on the Fort Meade rifle range.

Other more modern and efficient military weapons have replaced this

now elderly World War I weapon. As far as I know none are left in the Army's inventory except a few specimens in post museums. As with all first loves, however, I'll never forget the M1917. To me, the sleek, graceful rifle will always be alluring and elegant.



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Philosophy, Technology, and Tactics

CAPTAIN THOMAS P. KRATMAN

There seems to be a widely held belief in the U.S. Army today that "technology drives tactics and tactics drive technology" and that this has always been true. At its most extreme, this belief leads to an overly mechanistic, falsely scientific view of warfare in which the heaviest artillery is always seen as a sure winner. But history shows, I believe, that technology — instead of driving tactics — drives techniques and other technology. Indeed, any number of other factors may act singly or in combination to create or change tactics. A short explanation of tactical changes from pre-Biblical times to the recent past can demonstrate this point.

It is useful first, though, to define some of the key terms in this discussion. *Tactics* is the art (and sometimes science) of pitting strength against weakness. Much of what goes by the name of tactics in the U.S. Army (and others) should be called *techniques*

that support tactics. Thus, the way a machinegunner lays his gun along an FPL is a technique. But the way a platoon's weapons and fortifications are tied in to allow small arms to engage dismounted Infantry and separate it from armor (leaving the armor vulnerable to antitank weapons) is tactics. Similarly, camouflaging preparations for offensive action in one sector while drawing attention to another sector involves techniques if they are taken individually, but these things constitute tactics if they are taken together. Put more simply, techniques are a science and tactics an art.

Technology, as used here, refers to *new* technology, specifically to manufactured devices of recent invention. The difference is that centuries-old technological devices that have only recently found military application involve not science but wisdom, a new way of looking at things.

In the ancient world, swords,

spears, bows, arrows, slings, and suits of armor — all technological innovations in their times — were around for thousands of years without influencing tactics. The heroes of Homer's *Iliad*, armored like turtles in some cases, went forth to do battle without a thought for tactics. No different from neolithic village champions, these "high-tech" warriors of the past fought and either conquered or died singly.

Three successive ideas, however, were to have a decisive influence on warfare for some centuries. These were that men who were trained to march and fight in close order could form units of almost unbreakable density; that this would allow a frequent, organized relief-in-place of the rapidly fatigued front rank; and that men organized in such units and drawing physical and moral support from their fellows would willingly advance to close with and to physically and

morally overwhelm a foe who was not as well supported. These ideas formed the basis of the Greek phalanx, which included no new technology. Nevertheless, from Marathon to Utica, these ideas of discipline, order, and mass triumphed — often against a technologically equal or superior foe.

Technology did not drive the next significant tactical development either — the Theban (and later the Macedonian) phalanx. This phalanx employed the principle of mass, space, and time to group large forces at the point of decision while trading space and weaker forces for time until the main effort could be decisive.

Some might argue at this point that the 21-foot Macedonian *sarissa* was an example of tactics driving technology. It should be recalled, however, that this pike was at most a product improvement of existing technology and, more probably, only an adaptation of a long-existing technology to the new formation.

MORALE

Before continuing to history's next major tactical advance, the essentially morale-based nature of ancient battles is worth considering. Few such battles were won by flanking or enveloping maneuver (Thermopylae, Cannae, Cynoscephalae). They were won, rather, through the physical attrition of one side or the other (Zama), or through the breaking of morale and the subsequent mass desertion of one side (Mantineia, Metaurus, Arbela, Issus, Marathon).

This desertion was a curious phenomenon. It did not take place at the front of the formation, because to turn was to die. It did not begin with the middle ranks; the soldiers could see the battle and were in any case prevented from running by the physical presence of the rear flanks. This desertion began with the rear ranks; these soldiers — out of danger but nearing it; unable to see the enemy or gauge the progress of the battle; hearing only screaming and the clashing of arms; seeing their own wounded and dead

but seldom any enemy casualties — would be morally overwhelmed. First singly, and later en masse, they would quit the field of battle.

The other weakness of phalangeal tactics was that all the tactical and morale value of fighting in close order supported by comrades could quickly be lost if, because of rough terrain or enemy action, the cohesiveness of a formation was lost.

It was to combat these effects that the Roman Legion was evolved. The Legion, employing only old technology, and much of it inferior, revolutionized warfare with ideas. (Torso armor and the short sword, for example, taken individually, were inferior to plate armor, mail, and long swords, but they were cheaper.)

The more obvious of these ideas was to retain the phalangeal principles of order and discipline but to break the formation into smaller units. These smaller units would have gaps between them to allow the units to move independently around minor obstacles without breaking up the formation itself.

The second idea was to group men by physical fitness or individual fighting ability and age or morale. Thus, the youngest, least experienced, most physically fit — but most likely to break — troops were put up in the first rank companies. Behind these units, called *Hastati*, were the next youngest, next most likely to break units, called *Princeps*. In the last rank were the oldest, least physically fit, but most reliable men, the *Triarii*. In this way, the strongest troops in each category, combat power and morale, were at the greatest point of danger for that category. After this, few Roman armies were ever broken by the enemy and fewer still by the terrain.

The most profound advances in military technology during this period of Roman ascendancy — the use of torsion-type artillery and elephants — actually had little effect on tactics. Indeed, a study of the use of elephants during this time shows that for all their apparent potential, they were singularly ineffective.

Throughout the Middle Ages, the

few tactical changes that came about did so because of the rediscovery of earlier tactics in combination with various social and political factors, not because of technological changes. The heavily armored horseman, the feudal knight, arose to preeminence without the benefit of technological innovations in the wake of the social, economic, and military collapse of the Roman Empire. His mail coat, shield, and sword were nothing new. The selective breed of bigger and bigger horses that could carry more and more armor was by then a long-established technique.

MASS, ORDER, DISCIPLINE

And later, this knight and his tactics, such as they were, were not rendered obsolete by technology. What destroyed the feudal knight, literally and figuratively, was the rediscovery of the beneficial effects of mass, order, and discipline. This rediscovery came in the form of Swiss pikemen and German *landsknechts*, the Spanish *tercio*, and England's line of dismounted men-at-arms at Crecy. Moreover, this was done with the technology of 1200 B.C. and the philosophy of 400 B.C.

(I must confess that gunpowder made the feudal castle obsolete. But then, a castle whose usual occupants lay dead at Sempach, Agincourt, and similar places, was already somewhat obsolete.)

Looking at things objectively, an observer of the late Renaissance Period might have predicted that gunpowder would revolutionize the tactics of warfare. After all, it could hurl a missile that could kill at a range far beyond that of previous weapons. This observer would have been partially right — but mostly wrong. On the plus side, gunpowder did cause the art of fortifications to concentrate on lower, thicker walls to give protection. But that was engineering, not tactics. Gunpowder did make personal armor mainly obsolete. But that was the technology of ordnance, not tactics.

Gunpowder in muskets could kill

men at three to four times the range of a Roman legionnaire's *pilum*. Curiously, though, men continued to march in close order, as Roman legionnaires and Macedonian phalangites had, to fire on command, and to decide the issue physically and morally in close combat with the bayonet.

Napoleonic tactics were not driven by technology, for there were no significant technological advances in that era. Napoleonic tactics were driven by Napoleonic brains in combination with the great resources made available by a mass levy of troops.

MAJOR LEAP

At the time of the American Civil War, a major technological leap was made in the form of the conical bullet in the muzzle-loading rifle. Yet, if the casualty figures of that conflict tell us anything, it is that the bullet did not change tactics much. Without belaboring the point, let us say that tactics did change some, because this muzzle-loaded conical bullet enabled rifles to be reloaded quickly and, with the greater accuracy inherent in a rifle, this improvement gave a preponderance of combat power to the defense. In other words, it created an imbalance. The failure by commanders on both sides to recognize this imbalance contributed greatly to its effects.

On the other hand, an argument could be made that this technological advance was not nearly as significant to tactics as leadership and geography were. In the Franco-Prussian War of 1870-71, for example, using weapons even more defensively powerful than the muzzle loaders of the American Civil War, the campaigns were fairly mobile. The differences in this case were the superior leadership of German arms and the geography, which favored offensive action.

In World War I the earlier imbalance came to full fruition on the static western front. Machineguns, trenches, barbed wire, artillery, and better defensive (wire-and-trench-protected messengers) than offensive

communications (unprotected messengers) combined to produce a deadlock that could be broken only with radical changes in technology and techniques. The whole perception that technology produced the static western front is quite misleading; on the eastern front in that same war, using the very same technology, a mobile campaign was fought. Why? Demographics and geography. On the western front, there were simply so many men committed on each side on so small a front that there were no weak points to exploit on either side. (If two mad kings in the Middle Ages had committed their entire armed forces to fight for a three-foot-wide bridge over an unfordable river, the result would have been the same — without any advanced technology.) On the eastern front, the reverse was true.

World War II may seem to be a case of technology driving tactics and vice versa. Indeed it is true that the technological factors that contributed to a deadlock on the western front in World War I had driven the development of a new, highly technological weapon — the tank. But this was merely a case of technology driving technology.

The tank, used in small numbers to support the infantry armies before 1940, was in itself insignificant. Only when tanks were used in combination with the infantry infiltration tactics the Germans developed late in World War I did they affect tactics significantly in Europe. And this is a case of tactics affecting tactics. Moreover, even in Western Europe, North Africa, and the wide open spaces of the Soviet Union, factors of geography and demographics could completely alter the nature of the fight. This is what happened at such places as Stalingrad and El Alamein, in Italy, and on the Cherbourg Peninsula.

For example, on the Cherbourg Peninsula following the Normandy invasion, the combination of geography and number of troops committed to the front negated all the supposedly overwhelming offensive power of the tanks. This combination produced,

for the time it took to tear the German Army to shreds and produce weak points to be exploited, a situation reminiscent of World War I, the American Civil War, or that mythical three-foot-wide bridge.

During the Korean War, insufficient troop density on the part of the United Nations allowed the North Koreans to produce a fluid situation in the first few months, and this proves my point again. As soon as the U.N. had a front no longer than it could defend, the war bogged down for a while into a World War I style contest. Somewhat farther north and later in time (in the CCF intervention) this cycle was repeated.

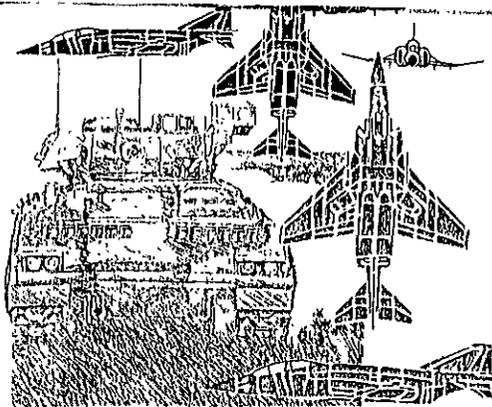
It is not my intention to suggest here that technology never drives tactics or vice versa. Rather it is to show that technology is merely one factor among many and, historically, one that has not been the most significant.

Instead of saying that technology drives tactics and vice versa, we should say that technology normally drives technology and tactics normally drives tactics. We should recognize that in cases where technology has driven tactics, it has been as a result of an imbalance — either in granting overwhelming advantage to the offense or the defense, or to one party to a conflict.

Finally, we should also recognize that where technology has driven tactics, it has not done so in a vacuum. Factors such as leadership, geography, demography, and philosophy, among others, have had far more significant effects.

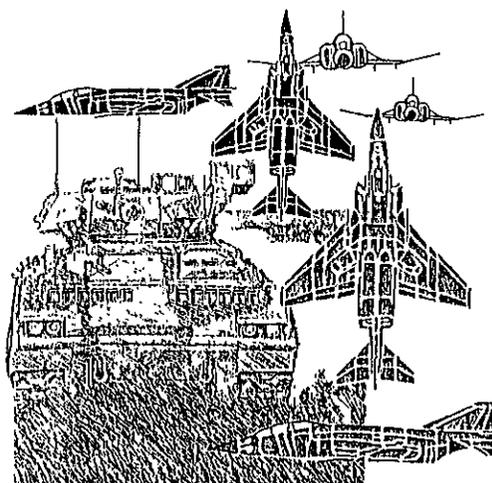
The implication of all this for the U.S. Army is that perhaps our enthusiasm for technology is misguided. A more balanced view, one in which technology is only one of a number of factors affecting combat, would enable us to do a better job of carrying out our mission.

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LIEUTENANT COLONEL RON OFFLEY
UNITED STATES AIR FORCE

Close Air Support For The AirLand Battle



Lately, many reports, papers, and studies have been presented on the AirLand battle as our military services attempt to nail down just how concepts such as deep attack, joint suppression of enemy air defenses (J-SEAD), joint air attack teams (JAAT), close air support (CAS), and combined arms warfare can be successfully implemented on future battlefields.

At the U.S. Army Infantry School, many questions are asked about Air Force support. To help dispel some misconceptions, this article will pose and discuss a few of

the more common questions that have been asked at the lower Army echelons during the development and refinement of one aspect of the AirLand battle — close air support, or fixed wing firepower on the friendly side of the fire support coordination line.

Although there are no clear-cut answers for most of these questions, a short discussion of each may be able to point out the factors the U.S. Air Force has to consider when deciding on who will be supported, and when, and with how much.

Will close air support be available on the first day of any future conflict?

In a September 1984 article, Assistant Secretary of the Air Force Tidal W. McCoy established the Air Force's mission priorities this way: "Air superiority is the first mission, because we believe that without control of the air, neither we (the Air Force) nor the ground forces can succeed. In effect, we now must perform counter air, air superiority, deep interdiction, and battlefield interdiction at the same time. Thus, we are structuring our forces accordingly. We have not, however, elected to pursue air superiority at the expense of all others. The A-10s, A-7s, F-4s, and F-16s in their air-to-ground modes are very capable CAS aircraft."

To phrase the answer in more operational terms, an anonymous fighter pilot put it this way: "You can shoot down all the Migs you want; however, when you return to base, if the lead tank commander of an advancing enemy motorized rifle division is eating lunch in your squadron snack bar, Jack, you just lost the war!"

The percentage of the total theater air effort that is dedicated to CAS is determined daily at the highest echelons of the theater's command. The Air Force has airplanes and crews whose *only* mission is ground attack, and if you need CAS and request it, it will be there.

Will the Army get control of the A-10 in wartime?

This rumor is without basis. The A-10 (with its 30mm gun) is designed for the close air support mission. It is centrally controlled from the theater's Air Force headquarters for its mission assignments. This central control allows the A-10 (and other CAS aircraft) to respond nearly anywhere along the front lines. During wartime, army and corps commanders will receive daily planning guidance for CAS requests, for both preplanned and immediate (on-call) missions. In certain situations the A-10 may operate from forward operating locations (small airfields) to respond more rapidly to specific engagement areas. In a temporary battle situation they may be under the scramble authority of the ASOC (Air Support Operations Center), which is the Air Force's command post at corps level.

Air Force aircraft are never placed under the Army's operational control. They respond to Army CAS requests, are centrally controlled at high-level Air Force commands, and execute their CAS missions with the aid of the air liaison officers (ALOs), forward air controllers (FACs), and tactical air control specialists (TACSSs) assigned to army brigades and battalions.

How many CAS sorties can a battalion expect?

This question is difficult to answer. First of all, has the battalion requested preplanned CAS and integrated it into its fire support plan? Just like any higher headquarters asset, fire support is not given unless it is requested. Because of the way air assets are centrally controlled, only corps or divisions are normally given planning guidance as to the number of daily sorties to expect,

although guidance may be further passed down to brigade or battalion by division headquarters.

To answer the original question, then, it depends on many factors. What's the scenario? Is it day or night? What's the weather? What's the threat? In the thick of fighting, a battalion may receive many sorties, or if it is holding and is not threatened, it may receive none.

Is it difficult for fighter-bombers to spot CAS targets?

Compared to the relatively short range of land-based direct fire weapons, CAS aircraft have a large operating area. Fighter-bombers have an operating radius of about 250 nautical miles or more without air-to-air refueling. Our navigation can be accomplished visually on 1:500,000 and 1:250,000 scale charts, by radar returns of prominent terrain features, with land-based radar or radio navigation beacons, and by internal navigational instruments. These navigational aids can direct a pilot to a target area but cannot locate the individual targets.

Because of our vast operating area, 1:25,000 or 1:50,000 scale maps are usually impractical to use, thereby precluding use of the UTM (universal transverse mercator) coordinate system. In most cases, a common land reference point must be found to positively identify both the friendly and the target positions. To do this, the pilot uses a combination of a FAC's verbal description, smoke marks, and laser designation. At the high speeds that our fighters fly, distinguishing smaller targets is very difficult, especially if those targets have made an attempt at concealment.

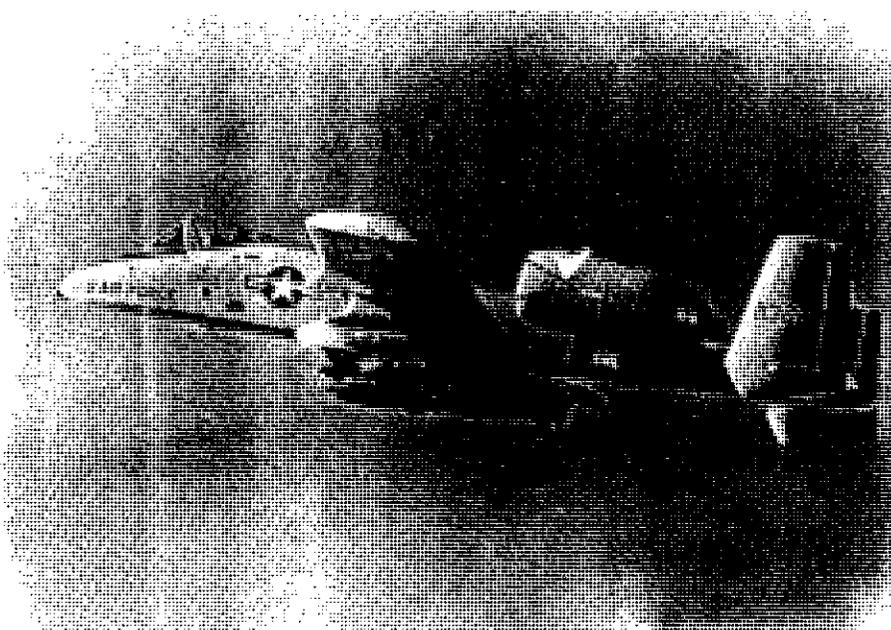
Why can't aircraft hit a target without radio contact?

Before we can drop air-delivered ordnance we must know at least where the friendlies are and where the target is, and we must have clearance to drop. Without radio contact the forward air controller cannot communicate the required minimum information and be confident that the pilot will receive and understand it. This lengthy communication includes start point, heading and distance to target, target area description, friendly position, abort codes, ADA positions, and other remarks.

The Air Force may use non-jammable radios and can use procedures in which a fighter receives the target briefing through a radio relay; that is, the briefing is relayed to a rear area command post or a forward air coordinator (airborne), who in turn relays the mission briefing to the fighter in an area away from the threat of jamming. The forward FAC then needs only minimal radio contact to put ordnance on the target. (The U.S. Air Force Air Ground Operations School teaches that CAS cannot be accomplished without at least minimal radio contact with the pilot.)

What about CAS for a land force's deep attack or for special raids?

CAS airplanes can go anywhere a land force goes. The support air forces may operate a little differently passing over enemy territory and will probably use their own weapons for suppression of enemy air defenses (SEAD).



The A-10 (with its 30mm gun) is designed for the close air support mission.

Generally, if there is little support available for Army SEAD, the Air Force will plan mission packages both to attack the target and to protect the CAS aircraft in transit and in the target area. These packages may include CAS attack aircraft, radar suppression aircraft (wild weasels), air-to-air fighters, jamming assets, airborne radars, and the like. The CAS procedures are in effect any time ordnance is expended near friendly forces — no matter where those forces are in relation to the FLOT (forward line of own troops). The CAS sorties can be either preplanned or immediate (on-call), depending on the situation.

How responsive is immediate CAS?

One should think of CAS as belonging with the larger, more destructive ordnance that is available to land forces. Generally, the larger the ordnance, the harder it is to get and the longer it takes to get it. Mortars are more responsive than 155mm artillery, which, in turn, is more responsive than 8-inch guns, which are more responsive than CAS.

CAS attack airplanes can respond anywhere on the battle front. The immediate CAS request is called to battalion and radioed directly to corps (or the highest operational headquarters) by high frequency (HF) single sideband radios operated by tactical air control parties (TACPs). The transmitted information includes unit identification, target location and description, and requested time on target.

The headquarters (Army) approves or disapproves the request, and the Air Force must find aircraft and ordnance that are compatible with the target. These may be diverted from another mission, launched from airborne or ground alert, or be available because of poor weather or other CAS cancellations. The CAS aircraft must take off, travel to the target area, and receive the target briefing. Delays may be caused by long communication links, searching for available and compatible ordnance

loads, and travel time to the target area. The time from the request to bombs on target may be from ten minutes to one and a half hours, depending on the situation. Generally, the more specific the requested firepower, the longer the time between request and result.

Why does the Air Force prefer preplanned CAS to immediate CAS?

Preplanned CAS is requested today for tomorrow's missions. It therefore allows more effective planning since the pilots have time to study the target area and analyze the threat. The Army's ground liaison officer (GLO) stationed at the fighter base can brief the pilots on any special aspects of the Army's CAS request. Aircraft maintenance and munition maintenance personnel can plan aircraft and ordnance to make the best use of the air wing's flying sorties. Although it is difficult to plan ahead in the defense, preplanned CAS can definitely be a part of the fire support plan in the offense.

Why can't the Army's company commanders control close air support?

In the years since World War II, the Air Force has developed a system for requesting and controlling CAS that has worked well. CAS is important enough that the Air Force supplies FACs, ALOs, and TACs to the Army's battalions and higher levels of command. These personnel are charged with advising the Army commanders and their staffs on the capabilities and the use of the theater Air Force, including all aspects of CAS.

We realize that the FAC cannot be everywhere on the battlefield, so in emergency situations the Air Force's enlisted tactical air command and control specialist can control the aircraft. In Grenada, the final control of some CAS (friendly location, enemy location, and clearance to drop) was accomplished by these specialists.

Additionally, fire support officers, as well as Army personnel who attend the Joint Firepower Control Course

at Hurlburt Field, Florida, are oriented in the emergency control of CAS. That is, they know CAS procedures but have not practiced with any attack airplanes. With more airplanes having frequency modulation (FM) capabilities (F-16, A-7, A-10), the Army is better able to talk directly to CAS aircraft.

Company commanders are normally neither trained nor authorized to control CAS. It would be a unique situation in which they would effect final control of a CAS mission. Although the procedures are not difficult, they are quite different from a normal call for fire. The units' FACs or ALOs are tasked with instructing in all aspects of CAS use and procedures.

Do CAS pilots worry about weapons status or friendly artillery?

Absolutely! The CAS pilots depend on the forward air controller to avoid heavy artillery concentrations. We would prefer not to shut down artillery (check fire) so, normally, local no-fire areas are coordinated for the duration of an air strike. The procedural control (tight, hold, free) of battalion air defense artillery (ADA) units is usually assigned by the division airspace management element (DAME). The weapons status depends on what the air space is used for. Thus, a typical example would be the establishment of a safe air corridor to be used by friendly aircraft for crossing the FLOT. Confusion at lower Army echelons may arise when friendly interdiction and reconnaissance airplanes cross the FLOT, since the Army will not normally be informed of these missions.

Obviously, our pilots are concerned about the safety of established air corridors and exactly whose ADA we should worry about. The deep attack aircraft will generally fly over the FLOT very low and very fast or will pick less hazardous crossing points. CAS aircraft will orbit behind friendly lines, then move forward to attack. In many cases, the pilot will never see the gunfire directed at him, because of his large workload and the speed of his aircraft. If the ADA is a factor in the attack of a target, we are normally authorized to attack enemy ADA.

What about enemy ADA in a CAS situation?

The joint suppression of enemy air defenses is initiated both at high levels of command as a long-range campaign and at low levels with local SEAD plans established at battalion level. Normally, the fire support element (FSE) will coordinate SEAD to protect both Army helicopters and CAS aircraft. They will plan attacks on local enemy ADA just before the arrival of friendly air support. The Army is responsible for SEAD out to the limits of observed fire, which means that some of the friendly artillery should be planned for SEAD missions to protect all air operations.

Can we expect CAS at night or in bad weather?

CAS airplanes visually attack point or area targets, and the sighting or guidance mechanisms are normally visually directed. To strafe or deliver unguided bombs, for

example, a pilot must visually acquire the target. Daylight CAS operations are the norm, and flare or infrared night operations are limited. Weather with a ceiling of less than 1,000 feet and a visibility of less than two miles limits fighter operations to area targets.

The CAS weapon systems cannot attack point, hard targets without visual acquisition. Bombing through the clouds relies on aircraft radar acquisition, beacon bombing, or ground controlled radar directions and normally results in the delivery of general purpose bombs on an area target that is a safe distance from any friendly forces. Some specially equipped aircraft have infrared seekers and laser target designators for night laser guided bombs. Also an infrared antitank missile is programmed for the inventory which will improve the night CAS capability. The Air Force is testing a low altitude navigation, targeting for night (LANTIRN) system for the A-10 and the F-16. This system should greatly improve the Air Force's night and poor weather target acquisition capability.

In short, CAS at night and in bad weather is limited today but should improve in the near future.

What are the best targets for CAS?

Concentrated groups of light armor, supplies, fuel, ammunition, or troops are excellent for general purpose ordnance. Hard mobile targets such as tanks can be good targets, too, provided our ordnance is compatible. Dispersed targets are difficult to find and are likely to waste ordnance. CAS is very flexible as to where it can attack and in what direction. For example, reverse slope attacks are relatively easy to accomplish.

We avoid concentrations of enemy ADA whenever possible both during attacks and while flying to and from target areas. When no SEAD support is available and a target warrants the risk — in support of an air mobile raid, for instance, or a joint air attack team mission beyond the limits of Army observed fire — CAS aircraft can assume the SEAD mission. We prefer not to be responsible for SEAD in a CAS environment because it decreases the ordnance load we can use against offensive enemy weapons.

What is battlefield air interdiction (BAI)?

Battlefield air interdiction is a preplanned attack by Air Force interdiction assets on targets nominated by the Army. BAI was developed in Europe and is a common mission for NATO forces.

Basically, BAI targets are those that may have a near-term effect on friendly forces — such targets as the second echelon division (and higher) targets of armor, troops, and vehicles. BAI sorties are integrated into the theater interdiction effort and are flown by Air Force aircraft using Air Force tactics.

A BAI attack can be planned to divert, disrupt, delay, or destroy BAI targets. For example, to interdict a second echelon division, attacks can be made on their command posts, enroute bridges, fuel dumps, assembly areas, and

massed armor formations, with each attack timed to produce the most advantageous result.

Extensive target planning is done by high level Army and Air Force planners, and excellent intelligence is required to identify the BAI targets. A pressing demand for the enemy assets to be moved forward facilitates an effective interdiction effort.

What about attacking enemy helicopters with CAS aircraft?

If the ground forces have no other options, certainly the Air Force will attack enemy helicopters. Tests have shown, however, that fast-moving aircraft have only limited success in attacking low-flying helicopters. Some multi-mission aircraft have guns and heat-seeking missiles that can be used to engage helicopters, but the counter-helicopter mission is not our primary one.

With the ever-increasing attack helicopter threat, each battalion must analyze the enemy threat and effectively deploy and use its friendly ADA. The chances are slim that CAS airplanes will be at the right place and time to counter specific enemy air threats.

What is the danger-close distance for air-delivered weapons?

While the Air Force doesn't use the term "danger close," a good rule of thumb for reasonably safe distances is about 1,000 meters in unprotected positions and 200 meters when protected. Depending on how controllable the ordnance is, these distances may vary. Strafing, for example, can be controlled down to 25 meters, as long as the friendly troops are not in the line of fire, but an area weapon such as cluster bomb units (CBUs) requires a minimum safe distance of 500 meters in protected positions.

The FAC is responsible for the safety of the ground troops during CAS missions, although his recommendations can be overruled by the ground commander.

What is so special about using a smoke grenade to mark positions for attack aircraft?

The omnipresent smoke grenade is the most commonly used overt friendly mark. Again, in reference to identifying the target and friendly positions, the hardest task in the CAS mission is establishing a common reference point on the ground that is recognized by both the pilot and the ground personnel. The smoke grenade is easy to use, readily available, and easy to see from the air.

There are other marks that can be used — flares, ground panels, or mirror flashes to identify friendly positions, and artillery smoke marks, tracers, or laser designators to identify target positions — so it is up to the ground personnel to brief the FAC when a smoke grenade or other overt mark may not be advisable.

What's a JAAT?

A joint air attack team (JAAT) is a combination of

U.S. Army attack and scout helicopters and U.S. Air Force close air support aircraft operating together to attack lucrative high priority targets. Employment tests have shown that the combined effects of these aircraft produce exceptionally good results. This joint attack supports the ground commander's scheme of maneuver and includes coordination of fire with the fire support officers. It can be requested through normal CAS procedures when attack helicopters are available.

How is CAS accomplished in an area where there is a high enemy ADA threat?

High-threat CAS tactics usually rely on the use of a known geographic point called an initial point (IP) from which an attack is started. The heading and distance from the IP to the target is relayed to the attack airplane. The aircraft flies low and fast toward the target and, at two to four miles from it, starts a climb to acquire the target and establish a dive angle for weapons release.

The target must be marked or the pilot must have a detailed word description of it to facilitate target acquisition. The CAS aircraft should attack on its first pass and will probably expend most of its ordnance on that pass, especially if the enemy ADA is concentrated. Re-attacks may be acceptable if the ADA is not heavy or if it is suppressed.

These tactics are a compromise that gives the aircraft a minimum time of exposure to ADA, a reasonable chance of hitting the target, and a reasonable chance of surviving. This method of attack is not unique to high threat CAS; most interdiction sorties are flown using similar tactics.

The preceding questions cover many aspects of close air support. With more emphasis today in the Army on light divisions and air deployable assets, a large part of the heavy firepower will be accomplished by CAS. A unit TACP's job is not only to advise the commander and his staff on CAS but also to educate the unit's officers and NCOs. This education is strictly voluntary, since there are no battalion training management system (BTMS) requirements for CAS.

As its name implies, though, close air support occurs in an area that should be considered a ground commander's front yard. To make it work effectively and accomplish his objective, the ground commander must understand how the system works — from request to ordnance expenditure. His TACP can make the system work for him, helping to insure successful operations for his unit and, ultimately, *our* total combat effort.

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DISMOUNTED

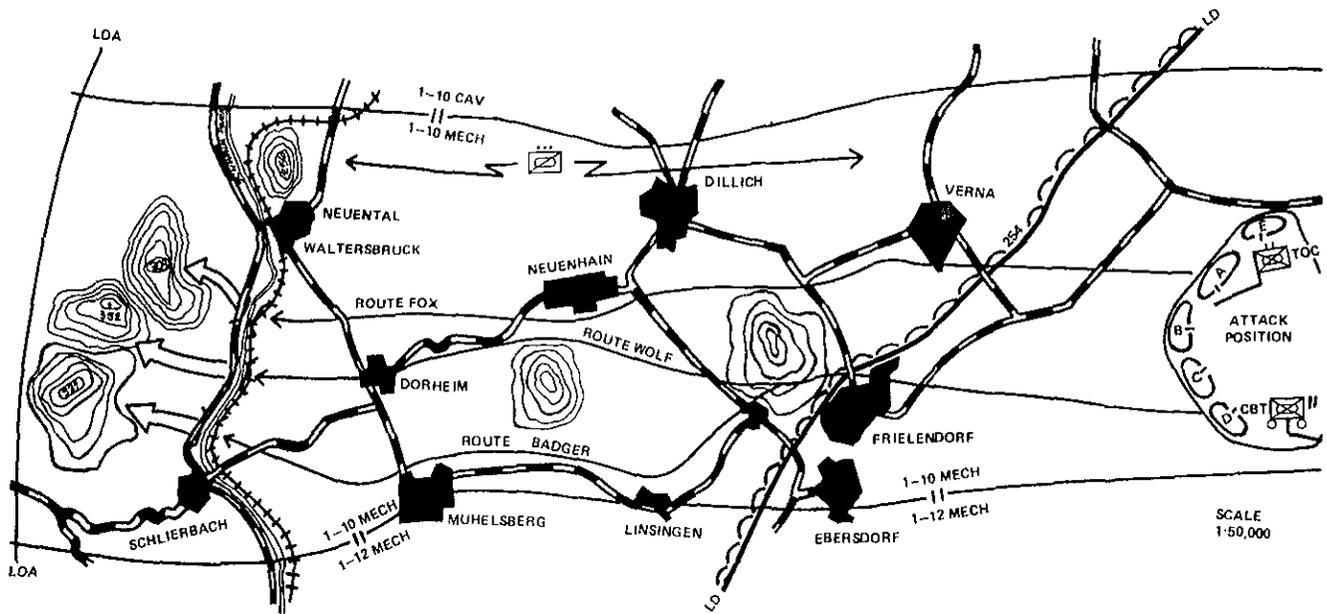
Night Attack

Illustration by [unreadable]

With the army's tactics of recent years, mounted troops have been almost entirely replaced by dismounted troops. This change has been brought about by the development of the machine gun and the invention of the motor vehicle. The mounted troops of the past were able to move rapidly over rough terrain, but the modern soldier can now move just as rapidly over any terrain. The advantage of the mounted troops has therefore disappeared.

Night gives a dismounted infantryman a great advantage over his mounted adversary. Through streets, over hills, over virtually any kind of terrain, mounted troops can move rapidly, but dismounted troops can move just as rapidly. The advantage of the mounted troops has therefore disappeared. The advantage, though, the infantryman must be thoroughly prepared to operate at night, and this is the key to the success of his night attacks.

The preparation for a dismounted night attack is...



with three infantry-pure battalions to secure the high ground overlooking the designated crossing sites, and to follow these at first light with three armored task forces. The infantry mission was complicated by the requirement for the three battalions to march up to 14 miles and to cross an unfordable river before they could seize and secure the decisive terrain that dominated the crossing sites. The activities of one of these three infantry battalions will illustrate how this mission was accomplished.

Preparation and rehearsal were the keys to the battalion's success in this endeavor. Preparation began with an extensive reconnaissance of the approaches, the river, and the crossing sites. An analysis of this information led to the development of a tentative tactical plan that was refined through battle simulations and sand table exercises. Simultaneously, the battalion intensified its night training, conducted rehearsals at its home station, and augmented its physical training program with forced marches of up to 10 miles with full field gear. All attachments participated.

The scheme of maneuver for this operation called for the employment of three rifle companies (the fourth had been detached for another mission) along three separate directions of attack, each of which extended from the line of departure to the objective (see accompanying map). Cross-country movement was to be exploited to the greatest possible extent to avoid contact and to reach the objective with the least delay. Check points and phase lines were used to control this movement as well as to gauge the progress of the attack.

All vehicles were left behind in the attack position, and their drivers and commanders participated in the attack with their respective platoons. The entire antitank company (20 TOW systems) also remained in the attack position with instructions to move rapidly on order to pre-designated battle positions where it could place overwatching antitank fires along likely armor avenues of approach.

The mortar platoon was situated near the line of depart-

ure and was to provide on-call indirect fire support; it was also to displace to subsequent positions on order. The scout platoon screened the battalion's right flank with dismounted elements that were actually in position before hostilities began. Scout drivers and track commanders remained with their vehicles so that they could link up rapidly with the dismounted scout elements and move to forward screening positions once the objective had been secured. Attached engineer squads and Redeye teams accompanied each of the rifle companies to support the river crossing and provide first-light air defense.

The unfordable river ran parallel to the objective and about 1,000 meters from it. The battalion's plan called for the attacking units to use rope bridges and three-man inflatable rubber boats (easily carried) to get across the river. All three companies were to halt at a pre-designated phase line near the river, inflate their boats, and begin the crossing simultaneously.

Once the far bank was secured, the companies were to work their way to their objectives by using infiltration tactics, destroy any opposition, consolidate their positions, and prepare to meet counterattacks. The company on the left flank had an on-order mission to reconnoiter the bridge at Schlierbach and seize it if it was intact and weakly defended. The command group, also dismounted, was to follow the left flank company and monitor the progress of the attack through reports of phase line crossings.

When its preparations were complete, the companies moved out of the battalion attack position just after midnight and crossed the line of departure along the three specified directions of attack. As a result of its detailed reconnaissance effort, its intensive intelligence gathering work, and its thorough terrain analysis, the battalion had a reasonably accurate picture of the disposition of the enemy's covering force elements. Therefore, the company commanders adjusted their routes to bypass those points where enemy concentrations were expected.

The attack proceeded on schedule all the way to the river, with a single brief interruption when an enemy machinegun opened fire on the right flank company. After a grueling 13-mile march through foot-deep snow, with each soldier carrying a 60-pound rucksack, the three companies reached their crossing site within 15 minutes of each other. To afford the best surprise and protection, the crossing sites had been selected specifically at points where no roads existed. The boats were inflated and moved to the river, and the soldiers began the crossing in groups of three at approximately 0530. Thirty minutes later, all elements had crossed undetected and regrouped to begin infiltrating the objective.

At this point in the operation, a fortuitous circumstance occurred: The reconnaissance element from the left flank company discovered that the Schlierbach bridge was intact and only lightly defended. Since possession of this bridge would expedite the passage of the follow-on armor units and complicate the enemy's withdrawal of his bypassed covering force elements, the company was ordered to seize it. Attacking both ends simultaneously, the company quickly overwhelmed the defenders and took control of the bridge. Leaving one platoon and its attached engineers to protect the bridge, the company resumed its advance toward its objective.

The battalion had divided its objective, which was the decisive terrain dominating the approaches to the river, into three smaller company objectives. The companies moved quickly toward their objectives, using great stealth and no preparatory fire. All three attacking elements succeeded in infiltrating their objectives and completely surprising the defenders. They then conducted sweeps to clear their objectives to the limit of advance, and each company established contact with the unit on its flank. By 0730 the battalion objective was declared secure and the follow-on armor task force had a clear path across the Schwalm River.

Because the division commander's intent was to get his armor across the river rapidly, the battalion's link-up with its carriers was delayed until the entire armor task force had passed through the battalion's position. Carrier link-up was then accomplished later in the day by trucking the drivers and track commanders back to the attack position and moving the carriers forward under the control of the company executive officers to pre-designated link-up points. By 1400 the entire battalion had been reassembled and was ready to continue the attack.

The night attack had been an unqualified success — it had unhinged the opponent's defense, forced the enemy to make a premature commitment of his reserves, and obstructed the withdrawal of the enemy covering force into its main battle area position. The armor units were able to penetrate deep into the enemy's rear areas and disrupt his entire defensive plan. By day's end, the division's lead

elements had reached a point some 30 kilometers from their line of departure and had sustained comparatively few losses in the process.

Several significant observations can be made as a result of this successful operation. First, night is the ally of the infantryman and negates many of the advantages enjoyed by a defender who occupies good defensive terrain and has sophisticated optics and weapon systems. Second, despite its limited dismounted strength, a properly organized and trained mechanized infantry battalion can use a night attack to accomplish at small cost what would probably be a very expensive endeavor during broad daylight. Finally, some risks must be accepted if such an operation is to be conducted with speed and stealth. Specifically, dismounted elements must rely upon medium-range Dragon antiarmor fires until the TOW systems of the antitank company can be brought forward, and infantrymen must be able to repel counterattacks without their normal caliber .50 machinegun support and rapid maneuver capability until a carrier link-up can be achieved. In this particular instance, however, the surprise and momentum achieved by the dismounted night attack reduced these risks to acceptable proportions.

The unsupported, nonilluminated, dismounted night attack remains a highly effective and desirable part of our offensive doctrine. To succeed, the tactical plan must be simple, thoroughly rehearsed, and vigorously executed. Detailed reconnaissance is absolutely indispensable in formulating and executing the plan; without it, the risks inherent in a night attack are magnified considerably.

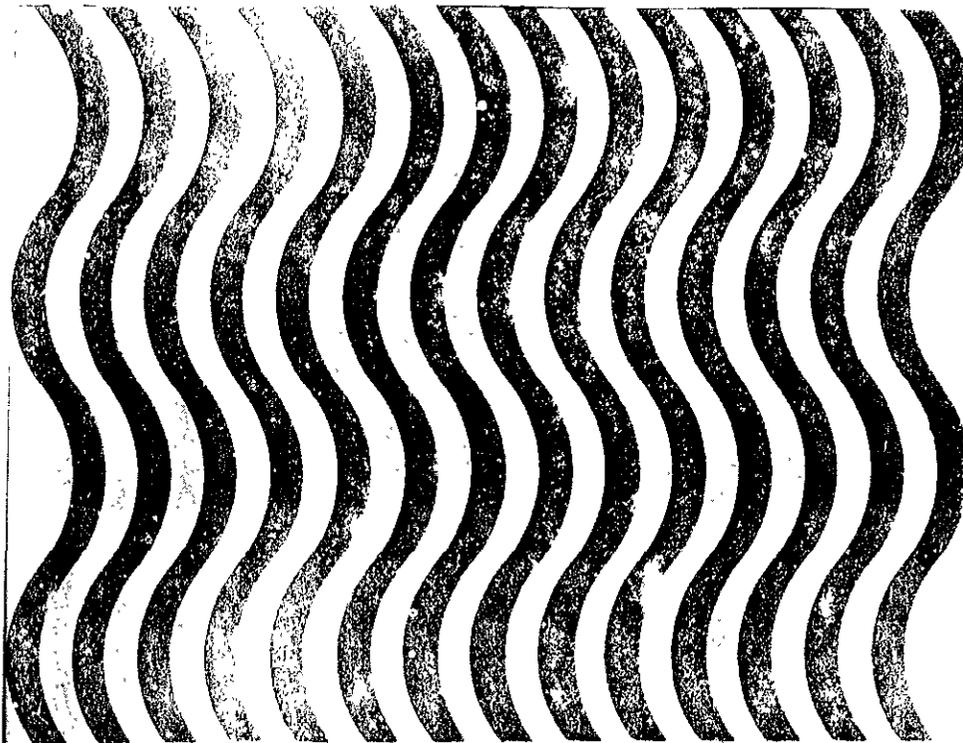
Field Marshal Erwin Rommel's observations on this subject in *Attacks* lend additional credence to this precept: "While the exhausted troops rested, the officers were untiringly active in determining precise information regarding the enemy and the terrain. Even after midnight they continued reconnoitering.... Thus they created the basis for the successful penetration...."

There is no reason, therefore, to believe that only special operations forces can conduct dismounted night attacks. The mechanized infantryman, if he is well prepared to do so, can also use his position in the combined arms team to conduct successful night attacks.



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ECHO ON THE BATTLEFIELD

CAPTAIN GEORGE E. KNAPP

The key to successfully employing the new antiarmor company — Company E, or Echo Company — of the J-Series mechanized infantry battalion is the attitude of the chain of command. First, leaders should stop thinking of the antiarmor platoons and sections of Echo Company exclusively as “add-ons” to the other companies (or teams) of the battalions (or task forces). Echo Company can be trained and employed as a unit and can give a task force commander one more option in planning and executing combat operations. Leaders should exploit the lack of published doctrine on the employment of the antiarmor company and aggressively develop their Echo Companies into the powerful battlefield forces that they can be. (EDITOR'S NOTE: See also “Echo Company: The Fifth Player,” by Captain Michael S. Hackney, *INFANTRY*, July-August 1985.)

Echo Company is maneuvered by the Echo Company commander, and he has a tough job. He must provide continuous antiarmor coverage throughout the task force's zone of advance or sector of defense. To do this, he maneuvers his platoons forward or to a flank or to the rear, always keying on the principle of retaining his flexibility to displace quickly and mass his antiarmor fires. Ultimately, massing his antiarmor fire will be the key to his success.

Consider, for example, the attack of a company-sized enemy force employing BMPs and tanks. A single ITV section facing this force is like a lone wolf stalking a

moose: The section can harass and damage the enemy company but is not likely to stop it. Add another ITV section and a platoon command and control vehicle, though, and the tactical advantage begins to shift in favor of the wolves. Add a third ITV section (the optional three-section ITV platoon found in some battalions that have not made the transition to the Bradley Fighting Vehicle), and the once dangerous situation becomes an opportunity to exploit success. It is the existence of platoon-level command and control that makes this employment technique possible. And always hovering about orchestrating the whole maneuver is the Echo Company commander.

The Echo Company commander is also a special staff officer — the task force commander's antiarmor advisor — and he takes part in the staff planning process with the S-3. He develops antiarmor courses of action to support each course of action developed by the task force staff; he provides input concerning the indirect fire plan, the obstacle plan, the scheme of maneuver, and direct fire control measures; and he makes recommendations concerning the detachment of portions of his company, if any, as well as the attachment of task force assets to Echo Company.

There is no doctrinal reason why Echo Company cannot be used as a team consisting of one or more antiarmor, mechanized infantry, armor, engineer, or other maneuver platoons. Too often, unfortunately,

Echo Company's platoons and sections are automatically farmed out leaving a company commander with nothing to command, a company executive officer with nothing to maintain, and a company first sergeant with nothing to feed, fuel, or reload.

Command and control within Echo Company is not unlike that in the other companies in a battalion task force. In fact, with a little work, the antiarmor company can be the best shooter, mover, and communicator in that task force. The company commander can talk to the task force commander, other leaders in the task force, his executive officer, and his platoon leaders. His platoon leaders can talk to him, the company executive officer, each other, and their subordinate sections.

The TOE configuration of two AN/VRC-46 radios in the command and control M113s supports this communication capability quite well. But the addition of one auxiliary receiver to each vehicle, turning one of those VRC-46s into a VRC-47, really improves a platoon leader's ability to respond to the antiarmor needs of the task force. Thus, when he is attached to other task force assets, a platoon leader can still monitor his parent company's net to receive up-to-date antiarmor information about the battlefield. And if Echo Company is operating in general support of the task force, a platoon leader can monitor the command net of the company or team in whose area he is working so that the support he renders is more appropriate and more in line with what that commander wants.

Battalions that have not changed over to the Bradley Fighting Vehicle and that still retain two ITVs in their line companies should go ahead and move these sections into Echo Company for several reasons. Although a single ITV section is powerful, it is unlikely to meet anything on the modern battlefield that it can overcome by itself. One ITV section, for instance, can seldom overwatch the maneuver of an entire company or team. In addition, line company ITV sections can operate only on their company's nets unless they somehow rig up an AN/PRC-77 radio in the section leader's track. And if one ITV in the section is out of action for any reason, the company's long-range antiarmor fires are reduced by half. Finally, line company commanders generally do not train their ITV sections well — the sections are usually either left on their own or used as aggressors in training.

Certainly there are exceptions to this and, oddly enough, some of the best ITV section leaders come from line companies. Once consolidated with the antiarmor platoons of Echo Company, however, the ITV sections become elements of a powerful battlefield force and can be trained and maintained with their own kind. The antiarmor platoon leader can plan and execute tactics that are familiar to all triangular combat units.

In employing this technique, of course, a valid concern is the increase in the number of radios needed within the antiarmor platoon, and one of the most challenging tasks for a platoon leader is maintaining strict radio communication discipline.

Antiarmor platoon leaders and platoon sergeants should be selected from the best soldiers available in the battalion, and being chosen to lead these platoons should be considered both a reward and a challenge. ITV platoons are, after all, special platoons. They are powerful forces that can be deployed over large areas. They often are required to act semi-independently. They can number up to seven vehicles — if the three-section platoon is employed — and they have some similarity to scout and cavalry platoons.

Recently, there has been some debate — and at least one full field study — on the subject of where the antiarmor platoon leader and platoon sergeant should ride. There does not have to be a doctrinal answer to this question; there really is only one good answer: Platoon leaders and platoon sergeants should ride wherever they need to ride in order to control their platoons. The truth is that no matter how much you jazz up an ITV, it is still a poor command and control vehicle. To displace a section leader or squad leader so that a platoon leader or platoon sergeant can better "see the battlefield" is, at best, only an option.

Admittedly, having these two leaders ride together in the same M113 can be tactically dangerous. But it is better to do that than to have one of the ITVs in each platoon dilute its potential armor-defeating power. What the platoon really needs is a TOE authorization for a radio-telephone operator (RTO) to ride in the M113. In the absence of this authorization, smart platoon leaders are presently getting this RTO by taking a good man from one of the sections.

TACTICS

Echo Company's primary role during movement is to provide overwatch for a task force's maneuver companies. Depending on the commander's scheme of maneuver, the company can be dispersed throughout the task force formation, can have a majority of the company well forward overwatching the lead companies or teams, or can be used to help with flank and rear security. When enemy contact is not likely, the company should keep two platoons moving. If the zone is so wide that two platoons must be employed in the overwatch, then those platoons should keep one or two sections moving. The antiarmor company keys on *anticipation and position selection* and must be prepared to mass its fires. The ITVs will be left behind even by M113s if the company commander and the platoon leaders are not anticipating and aggressively positioning the overwatch sections. (There is a parallel between the way antiarmor leaders must anticipate, plan, and move and the way mortarmen and artillerymen do the same to provide coverage for the maneuver elements.)

In the offense, Echo Company moves by bounds within the task force's zone and provides continuous, overwatching antiarmor fires for the forward maneuvering teams. When enemy contact is likely, up to two-thirds of

the company should be in overwatch, although the Echo Company commander should keep one platoon moving and ready for any eventuality. Once contact is made, the antiarmor platoons establish a base of overwatching fire and begin destroying and suppressing the enemy. Platoons not in contact are not automatically committed to that contact.

It is important that Echo Company retain its freedom to maneuver if it is going to support the entire task force and also deal with the enemy's follow-on forces. Platoons in contact help fix an enemy force so that it can be destroyed or suppressed and bypassed. This must be done quickly so that the task force can maintain its own freedom to maneuver.

Echo Company's semi-independence plays an important part in making this work. For example, the antiarmor company commander may recommend attaching his platoon that is in contact directly to the task force maneuver team that is also in contact. (At times like this, the communication ability of the antiarmor platoon takes on a critical importance.) The techniques of detaching and re-attaching antiarmor platoons, in fact, can become part of a task force's maneuver SOP. It takes a lot of practice, and it suggests a habitual relationship between antiarmor platoons and companies or teams. Once developed, though, these techniques give a task force the flexibility it needs to deal quickly with the fluid nature of a modern battlefield.

In the hasty attack, antiarmor platoons are positioned to provide continuous, overwatching fires and are prepared to provide flank security along a task force's boundaries. This base of fire is not static. It moves, re-orient, and shifts fires as needed. It displaces rapidly to consolidate and provide overwatch for subsequent task force moves and to defeat enemy counterattacks.

In the deliberate attack, the antiarmor platoons are positioned to provide overwatching fires onto and beyond the objective. Fire planning and distribution are more precise. Subsequent bounds are more clearly identified and sequencing is determined. Again, flank security for the task force can be an antiarmor platoon's mission. Once the attack begins, the Echo Company commander must be ready to move his platoons by bounds onto and beyond the objective to maintain the attack's momentum and to defeat any enemy counterattacks.

In exploitation and pursuit operations, the security of the antiarmor platoons is a particular concern. Still, the ITV can be a devastating weapon at great ranges against enemy rear area targets. Antiarmor platoons can also be used to secure lines of communication or to provide early warning along exposed flanks.

The German Army repeatedly used this flank security and early warning tactic with success in World War II. The technique, called the "pak-front," normally employed the long-range 88mm weapon in a direct-fire antitank role. These weapons often denied the enemy access to the exposed flanks of friendly penetrations.

Exploitation and pursuit operations tend to feed the



Soldiers from the 4th Division unload spent missiles from their M901 vehicle.

continuing dialogue on the disparity in mobility between the M113 generation of tracked vehicles and the newer Abrams and Bradley mix. We might do well to remember that speed alone is not the most important element of mobility — planning, anticipation, and execution are more important.

FIRE PLAN

In the defense, fire planning and control are the keys to the successful employment of a task force's antiarmor assets. The Echo Company commander submits the antiarmor fire plan, which includes TOW, tank, 25mm, Dragon, and artillery fires (as well as tactical air, gunship, and naval gunfire, if available). Control measures include trigger lines, engagement areas, kill zones, target reference points, sectors, priorities and techniques of fire, phase lines, battle positions, and boundaries.

When deployed along enemy avenues of approach the greatest danger to the antiarmor sections and platoons comes from their tendency to bunch-up. This is particularly true of the three-section platoon that might be deployed with other task force elements along a single avenue of approach. In this case, which is not an unusual one, a compromise must be reached between the need to mass fires and the equally important need to add depth to the defense. All too often the defense tends to become linear as leaders try to defend everything in the sector. This is dangerous, and we should be reminded of the old adage that "he who defends everything defends nothing."

Echo Company is well-suited to help provide depth in a

task force's sector. When employing the two-section ITV platoons, the best technique is to deploy the company in depth. Three-section platoons can achieve good depth by themselves. Often in the defense, a task force commander may wish to attach antiarmor platoons to companies or teams. When possible, a task force reserve force can be commanded by the Echo Company commander, built around an ITV platoon to counterattack by fire and a mechanized platoon to hold ground.

Echo Company is also particularly well-suited to the delay, especially when it is reinforced with a tank or mechanized infantry platoon and working with aerial or ground scouts. For example, Echo Company can provide the nucleus of a covering force and can be deployed as far as 15 kilometers forward of the main defense area. Deployed in depth, Echo Company can create a series of overlapping kill zones throughout the depth of the covering force area. As the enemy advances along his avenues of approach, he is worn down and slowed as the elements of the covering force fall back upon themselves, thereby gathering strength. Avoiding decisive engagement is critical, and so is avoiding the inevitable tendency of covering forces elements to "shoot and run." Anticipation is the key, and the control measures used for firing and moving must be simple and flexible.

Consideration should be given to attaching an artillery FIST to the Echo Company. Certainly for special missions, such as the covering force, the company needs a FIST. An alternative to a full FIST would be the addition of a spare radio mount in the Echo Company commander's track to accommodate at least an observer using the indirect fire net. If properly set up, TACFIRE can be operated right in the commander's track.

Supporting the Echo Company in the field will tax even the best company executive officer and first sergeant. Because Echo Company's elements often spread throughout a task force's area, the positioning of the executive officer and his group can present a great challenge. Unlike his line company counterparts, the Echo Company executive officer does not have a track, so he cannot stay too far forward during the battle. What he can do, though, is to position himself with the company's maintenance, recovery, and medical personnel close enough to be responsive.

The first sergeant brings the beans, bullets, and fuel

forward in platoon packages because it is seldom possible to feed, re-arm, and refuel the entire company in one place. Missile resupply at platoon level can be improved if the platoon command and control M113s are fitted with missile ready racks from the old M220 TOW vehicles. This immediate resupply of ten missiles represents 14 percent of the basic load of the three-section platoon and 20 percent of that of the two-section platoon.

An ITV is a weapon of position. No matter how good the weapon and crew are, if their position is poorly occupied, a disaster is likely to occur. Every ITV crew member must know what to do when occupying a firing position. Using an acronym for this process may be useful. The letters SCRAM, printed on the thumb and fingers of one hand, can help ITV crews remember the key elements:

Security. Normally, security means dismounting one crew member armed with an M203. This action is particularly important at night.

Cover and concealment. Often, the crew does not realize what a poor position they have occupied unless they physically get out of their track and look around. Whenever possible, tracks in the same ITV section should visually sharpshoot each other's positions.

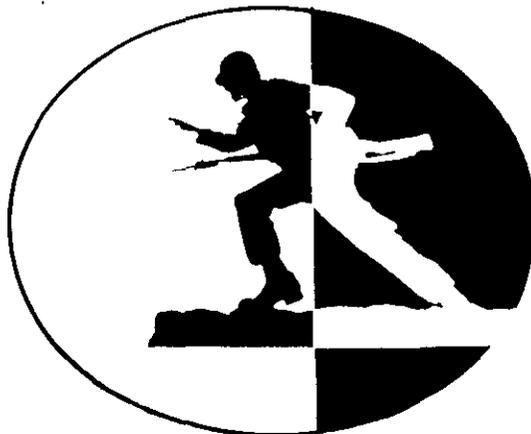
Range card. A range card should be prepared in each occupied position. It is important to establish a time limit within which this must be done. By the time a track has been in position for 30 minutes, a range card should be completed.

Alternate and supplementary positions. Every crew member must know where these positions are and how to get to them, both mounted and on foot.

Mutual support. This includes the systems to the front, rear, left, and right as well as any other weapon systems in the area, including indirect fires.

Echo Company can be a powerful force on the modern battlefield, or its combat power can be diluted and lost. It is up to the entire chain of command to see that it is used to its best advantage.

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TRAINING NOTES



An Execution Matrix

MAJOR ROBERT J. HENRY

There is little question that a properly prepared execution matrix can be of considerable help to a battalion commander and his staff in planning and executing a combat operation.

Unfortunately, the execution matrix in our current doctrinal manuals (Figure 1) shows only company (or team) battle positions, levels of position preparation, engagement areas, and orientation.

With some modifications, this basic matrix can be made more useful. These modifications include adding a task organization section, a block in which a mission statement can be written, and a block in which a unit's attachments can be shown. This modified matrix allows the battalion commander and his S-3 to plan almost an entire operation on one sheet of paper; it shows all of the battalion's combat elements, including its scout and 4.2-inch mortar platoons and any attached units.

The completed matrix in Figure 2, based on hypothetical units and a hypothetical operational situation, shows how this matrix can be used. Imagine the matrix blank, and follow the way it is filled out step by step.

The commander of the 2d Battalion, 114th Infantry (M), has been given the following mission: First to defend in sector and then to receive the battle from the covering force. The brigade

has taken one of the battalion's mechanized infantry companies — Company C — but has given the battalion these attachments:

- One tank company: C/2/80th Armor.
- Two engineer platoons: 1/C/104th Engineers (DS) and 3/B/111th Engineers (OPCON).
- Two Stinger teams: 4/D/522d Vulcan (DS).
- Two CEWI teams: Teams 1 and

2, 2/C/50th CEWI Battalion.

The S-3's first step in filling out the matrix is to list the organic and attached units. At this time, he shows the units in their pure states and lists the attached units in the attachment block.

The next step is to develop the mission statement for the task force. This process follows the METT-T method and the wargaming thought processes of the commander and the S-3. Eventu-

OCCUPY				
PREPARE				
RECON				
RECON				
MISSIONS				

Figure 1. Current matrix.

ally, they arrive at a detailed mission statement, and the S-3 puts it in the "TF mission" block.

The battalion commander now decides what he has to do to accomplish this mission:

- Because the enemy can hit his unit with two motorized rifle battalions and a mechanized company, he must break up that attack by defending in depth throughout his sector.

- He must stop the enemy forward of an important network of roads in the battalion's rear area, and this will take three companies (or teams) fighting from battle positions throughout the sector.

- He must put a strongpoint around the road network, because if the enemy force reaches that road network the battalion will be in serious trouble.

The battalion commander develops

an appropriate organization to do what he feels must be done. Here is his solution:

- He will form two company teams — Company A with an attached tank platoon, and the tank company minus one of its tank platoons but with a mechanized infantry platoon attached. Together with Company D, which will be used as a pure mechanized infantry company, these units will fight from the designated battle positions.

- Company B, minus one of its infantry platoons, will be the strongpoint company. Initially, it will have one ITV platoon and the direct support engineer platoon to help the commander dig-in his company.

- The scout platoon, reinforced by an ITV platoon and both CEWI teams, at first will screen the task force's front to keep track of the enemy

force. As the covering force begins its withdrawal, the scouts will man the two passage points given in the brigade order. Once the covering force hands off the battle, the scout platoon will screen the task force's right flank. At that time the ITV platoon will be detached from the scout platoon and attached to Company B at the strongpoint. The CEWI teams will revert to task force control.

- Initially, the 4.2-inch mortar platoon will be well forward. When it displaces it will do so by section so there will be no lull in its firing. The platoon will also plan and register an FPF in Company B's area along the main infantry approach and to cover any deadspace.

- All other elements will remain under task force control, at least in the beginning.

KEY		ON HAND	MECH	TANK	ITV	SCT	ATTACHMENTS	
		DETACHED					CP 2-80 ARM 1/10/2-114 (S) 3/1/111 ENG (OPCON) 4/1/3-522 VULCAN (S)	
		NOT USED	CEWI	ADA	ENG			
UNIT	①	②	③	④	⑤	⑥	⑦	
	TMA	B(-)	TMTANK	D	E(-)	SCOUTS	4.2	
TASK ORG	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	
TF MISSION	TF 2-114 MECH DEFENDS IN SECTOR NLT 010001A JAN 85 FROM NB4130276 TO NB413235 ACCEPTS THE BATTLE HANDOFF AND ASSISTS THE WITHDRAWAL OF THE COVERING FORCE.							
MISSIONS	① OCCUPY	② PREPARE	③ RECON	④ COUNTER ATK				
	1-1 EA RED (EA BLUE)	1-2 PT STRONG EA KILL	1-3 EA WHITE (TRP 3)	1-4 EA YELLOW (TRP 3)	1-5 EA RED (EA BLUE)	SCREEN TF FRONT ALONG PL LOC EA GOLD ON ORDER MAIN PP T&B	GRID 90 GRID	
	2-1 EA SILVER (TRP 25)	-	2-3 EA BLK (EA GREEN)	2-4 EA PINK (TRP 17)	2-5 EA PINK (TRP 22)	SCREEN TF RT FLANK FROM CP 12 TO CP 6 EA TAN (TRP 22)	GRID 0/0 GRID	
	3-1 TRP 30	-	3-3 TRP 36	3-4 TRP 26 (TRP 2)	3-5 TRP 31	0/0 3-6 EA TAN		
	1-1	-	1-3	1-4	1-5	SCREEN TF FRONT ALONG HANDOFF LINE EA GOLD		
	EXECUTE OBSTACLE NO G ON ORDER C/ATK TO SEIZE BP 1-1 0/0	0/0 PICK UP ONE ITV PLT FROM THE SCOUTS NO MOVEMENT FROM BP 1-2 AUTHORIZED	SUPPORT BY FIRE TMA'S C/ATK FROM BP 2-3 RE-OCCUPY BP 1-3 0/0	SUPPORT BY FIRE FROM BP 2-4 0/0 RE-OCCUPY BP 1-4	ESTABLISH ALT TDC VIC CP 12 RE-OCCUPY BP 1-5 0/0	DETACH 1 ITV PLT TO BCO(-) UPON PASSAGE OF COVERING FORCE DETACH GSR TMS TO TF CONTROL 0/0	DISPLACE BY SECTION ONLY. PLAN SMOKE AND ILL IN SPT OF SCOUTS REG 1 FPF IN BLOC AREA BP 1-2	

Figure 2. Modified matrix completely filled in. (Units are hypothetical.)

With this guidance, the S-3 selects the actual platoons he needs to comply with the commander's concept and completes the appropriate blocks on the matrix.

Company A is to be a full company plus a tank platoon, which makes it a company team. The S-3 darkens the first platoon block in the tank company's column, which shows that the first tank platoon has been detached. He then adds a tank symbol to the fourth block in Company A's column and places the unit designation for the tank platoon next to the symbol.

He then organizes Company B according to his commander's desires. He takes Company B's 1st Platoon and moves it to the tank company's column. He does this by blackening the first platoon block in Company B's column and adding a mechanized infantry symbol to the tank company's column, together with the mechanized infantry platoon's designation. This action also serves to form Team Tank.

The S-3 now attaches an ITV platoon to Company B — the 1st Platoon, Company E — and adds the DS engineer platoon to the same unit. To show this on his matrix, the S-3 darkens the 1st Platoon's block in Company E's column and adds an ITV symbol to the fourth position in Company B's column, together with its proper designation. He puts an engineer symbol in Company B's fifth position and identifies the unit. He also crosses out that engineer platoon in the "attachment" block of the matrix.

Since Company D will initially act in a pure state, the S-3 simply puts a large dot in blocks 4 and 5 of Company D's column to show that there are no attachments.

The scout platoon needs an ITV platoon, so the S-3 darkens the second block in Company E's column and adds an ITV symbol in the third block of the scout platoon's column. He also places the unit designation for that ITV platoon next to the ITV symbol.

The scout platoon also gets the two CEWI teams, and the S-3 adds this symbol to the scout platoon's column,

appropriately identifies the teams, and crosses out the CEWI teams in the attachment block.

Only the third platoon of Company E remains with its parent company. To show that there are no further attachments to or detachments from Company E, the S-3 puts large dots in the fourth and fifth blocks of that company's column.

The matrix now shows the complete organization the battalion commander wants. The S-3 then looks over his matrix and puts large dots in the unused blocks in each company's column. From this he can now tell at a glance how many and what type platoons are in each company. And by looking at his attachment block and seeing the units that he has not crossed out, he knows which units are under TF control.

The bottom part of the matrix is really the matrix that is now shown in our doctrinal literature, with one exception — the columns that have been added to account for the scout platoon and for the 4.2-inch mortar sections.

This part of the matrix is filled out in the manner described in our current how-to-fight manuals. The columns for the scout platoon and the 4.2-inch mortar sections are filled out in the same way the line unit columns are, but additional notes and grid coordinates can be inserted to better describe the units' assigned missions.

To make the matrix even more functional, both the position levels of preparation and the companies can be numbered. Thus, as can be seen in Figure 2, the levels of preparation are placed on the left side of the matrix and numbered in the order in which they will be carried out. In the example used with this article, the levels of preparation and the corresponding numbers are:

NUMBER	LEVEL OF PREPARATION
1	Occupy
2	Prepare
3	Reconnoiter
4	Counterattack

The units are numbered as they appear in the completed task organiza-

tion. Thus, the unit numbers are:

NUMBER	UNIT
1	Team A
2	Company B (-)
3	Team Tank
4	Company D
5	Company E (-)
6	Scout Platoon

By combining a level of preparation and a unit number, an S-3 can easily assign battle positions. Thus, in the example used, the first level of preparation the task force will undertake is to occupy battle positions along the FEBA. Therefore, Team A's battle position would be BP 1-1. (The first number is the level number, the second is the unit number.) Company B (-) would have BP 1-2; Team Tank, BP 1-3; and Company D, BP 1-4.

When the commander moves his units into the second part of the operation — prepare — Team A's battle position number becomes BP 2-1. The battle position numbers follow the same sequence used for the TF's missions.

The new execution matrix is much more effective than the present one in planning a combat operation. It gives a commander a more complete picture of his total force, because combat power, task organization, attachments, missions, and unit levels of preparation are all shown on one piece of paper.

The new matrix is not difficult to handle; its completion requires only a little practice. It is also flexible and can be used with different types of operations.

And, finally, it provides a commander with a formatted sequence to his operation that will be of great help to him on the complex battlefields of the future.



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Defensive Sector Sketches

CAPTAIN HAROLD E. RAUGH, JR.

The best defensive positions are those that are planned with two considerations in mind — which positions will make the most of the defender's advantage, and which weapons will be the most effective against the attacker. One way a defender can plan his positions and control his fires effectively is through the use of sector sketches. And these sketches can also help him determine how well those fires will cover his sector.

More training needs to be conducted on the use of sector sketches. Then all rifle squad leaders, platoon leaders, and company commanders should be required to develop sketches and submit them to the next higher echelon of command.

When given a battalion operations order that prescribes a defensive mission, each of these leaders first begins his troop leading procedure and makes a tentative plan on the basis of his METT-T analysis.

Mission. He considers the unit's mission, including the specified and implied tasks involved in it.

Enemy. He considers the enemy situation, the size and type of units, where they are, their ability to reinforce, the weapons and units in support, and their capabilities and tactics.

Terrain and weather. He considers observation and fields of fire, cover and concealment, obstacles, key terrain, avenues of approach, and the effects of weather on personnel, equipment, visibility, and trafficability.

Troops (and other assets) available. He considers all the resources available to him. (A squad leader, for example, after his analysis, develops his plan in the following sequence: He positions his machineguns and Dragons, posi-

tions his troops, emplaces obstacles and mines, and then develops targets.)

Time. He considers the time available.

(The Armor School adds to these items Space available to get METT-TS.)

Each leader then prepares a defensive sector sketch to help him plan his defense and control his fires. The sketch should show at least the following:

- The main terrain features in the sector of fire and the estimated ranges to them.
- Each primary position.
- The primary and secondary sectors of fire of each position.
- The type of weapon in each position.
- Observation post (OP) and leader positions.
- Target reference points (TRPs) in the sector.
- Deadspace.
- Obstacles.
- Final protective line (FPL) for dismounted machineguns.

(Excellent examples of squad and platoon sector sketches are found on pages 4-14 and 4-15, Field Manual 7-8.)

The heading of a squad sector sketch should include the unit (no higher than platoon) and the date-time group. Each squad leader should submit his sector sketch to his platoon leader within 30 minutes after he completes his METT-T analysis.

The platoon sector sketch is basically a consolidation of the major items from the squad sector sketches. A platoon leader develops his plan in the following sequence (after conducting his METT-T analysis). First, he positions his machineguns and

Dragons; then he positions his squads, emplaces obstacles and mines, and develops targets.

After checking the range cards and the squad sector sketches, the platoon leader adjusts the sectors or weapons as necessary to cover any gaps or other flaws in his fire plan. When convinced that his plan is as complete and effective as possible, the platoon leader makes his platoon sector sketch showing:

- Squad sectors of fire.
- Machinegun and Dragon positions and sectors of fire, including FPLs and PDFs of the machineguns and TRPs for the Dragons.
- Mines and obstacles.
- Indirect fire planned in the platoon's sector of fire (targets and FPFs).
- OPs and patrol routes (if any).
- The platoon command post (CP) location.

The heading of the platoon sector sketch gives only the platoon designation and the date-time group. The platoon leader makes two copies of his sector sketch, keeping one and giving the other to his company commander within one hour after completing his METT-T analysis.

At the company level, the commander has more direct and indirect fire weapons available to him, and he needs to include all of them when he develops his defense plan in his sequence: He locates any armor kill zones; positions TOWs and tanks, if available; confirms positions of all crew-served weapons; identifies locations requiring additional obstacles and mines; and develops targets.

The company commander analyzes all the platoon sector sketches when they are submitted and makes any

TRAINING NOTES

weapon and position adjustments that may be necessary. He then completes his company sector sketches. Unlike the squad and platoon sector sketches, the company sketch needs to be drawn to scale on an overlay. It should include:

- Primary and alternate traces for each platoon.
- All M60 and .50 caliber machine-guns and Dragons.
- All mortars, including primary and alternate positions for the company's organic mortars.
- Indirect fire targets, selected by the company commander as well as those provided by battalion.
- Mines and obstacles.

• All TOWs and other weapons attached to the company.

• Primary and alternate CP locations.

• Armor kill zones in the company sector.

• All CP/LPs.

The heading on the company sector sketch states only the company designation and the date-time group. Realistically, the company commander should try to get a copy of his sector sketch to his battalion commander within 90 minutes after he completes his METT-T analysis.

Squad and platoon leaders and company commanders need to plan their defense effectively, and the sector

sketch is an excellent way of doing this. It helps determine the adequacy of sector coverage and also helps in controlling fires. By using the METT-T analysis listed here and the described sequences of defense and sector sketch planning, commanders can effectively organize their unit defenses to halt and destroy any attacking enemy.



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72 Ways to Win Bigger

LIEUTENANT COLONEL WAYNE A. SILKETT

Army 86 was developed to increase the Army's ability to cope with changes in the technology, organization, and nature of the Soviet threat. Basically, the Army feels it must be prepared to fight outnumbered and win. Specifically, this means the Army, from battalion through theater, must be able to see deep, attack deep, apply combat power, and protect and sustain the force.

Critical to these requirements is the role of superior technology, and every element of the Division 86 force structure will in some fashion benefit from its effects. Even the infantry battalion will benefit. Or will it?

Among the improvements envisioned for the Division 86 infantryman, for instance, is a series of small arms designed to increase his firepower. An increase in firepower serves two purposes: It increases potential lethality, and it lessens the need for developing and maintaining individual marksmanship skills.

The effect of superior weapons technology elsewhere in Army 86 is obvious, and high technology examples abound: the TOW antitank missile, the "smart" bomb, and the cruise missile. Even the tank is a technological benefactor. Thanks to such improvements as the laser rangefinder, a single main battle tank (MBT) round has a 50:50 hit probability at 2,000 meters. In short, what the tanker can see, he can hit.

But the infantry's planned technological future seems to represent a marked departure from the combination elsewhere of reduced ammunition expenditure, high accuracy, and high lethality. Is this the way to go? How about another look.

A MODEST PROPOSAL

At the infantry battalion level, significant benefits could accrue if we turned at least 72 riflemen per battalion into snipers.

Opponents of sound marksmanship in general and superior marksmanship in particular have long done the infantry a disservice and the enemy a left-handed favor: By neglecting the human factor in the man-plus-machine equation, they have substituted firepower for marksmanship. Thus, volume of fire takes the place of accuracy and apparently is to continue doing so. And all this ignores the fact that there are many electronic and optical improvements that can dramatically increase the individual rifleman's lethal potential.

The emphasis on increased small arms firepower has resulted, however, in a corresponding deterioration of the existing regard for even the most basic marksmanship techniques, skills, and standards. Thus the "cone of fire" has replaced an individual soldier's aimed fire. As a result, the infantryman now shoots more but hits less. This ability to shoot more, aided by weapons that fire ever faster and

ammunition that gets ever smaller and lighter, has made firepower more important than accuracy and now threatens to divorce the two entirely.

But enough on theory. How about reality?

Part of the reality of Army 86 is adequately addressing the Soviet threat, which has technological, geographical, and numerical dimensions. A critical part of the geographical dimension is the potential European battlefield. Not only will that battlefield be saturated with targets but these targets will be alarmingly close, especially for the infantryman. Nearly 85 percent of the target opportunities on a European battlefield will be within 1,500 meters. This is simply a function of terrain and urbanization; it does not address the additional constraints of weather, night, or smoke. In fact, urban areas, either intact or largely rubble, provide one of the best cases of all for developing and employing snipers.

Another Army 86 reality is so real as to be axiomatic: fighting outnumbered. Not only will significant reinforcement be unlikely — or at least untimely — on a future European battlefield, so too might even so basic a matter as resupply. Does it make great sense, then, to prepare and equip infantrymen for high rates of fire when the resulting ammunition expenditures may not be readily replenished?

There are also other realities to consider. Many of the infantry "targets," such as armored vehicles, will be quite impervious to high volumes of small arms fire anyway, at least, most of the time. (Strangely enough, while small arms usage — rifle, automatic rifle, machinegun — goes ever further in the direction of high rates of fire at the expense of accuracy, improvements in other infantry munitions — particularly those intended for use against armored vehicles — demand the opposite. The LAW, the rifleman's assault weapon, various bullet-trap type rifle grenades, and improved 40mm M203 grenades all demand accuracy for the best results. Since the Army does not expect dozens or even hundreds of these munitions to be fired indiscriminately in the direc-

tion of the enemy with only the vaguest expectation of a hit, why should it tolerate anything different with the soldier's basic weapon?)

For the infantry, though, neither combat in cities nor combat in general reduces the requirement for firepower at the lowest levels. Large numbers of snipers would simply complement the employment of other infantry battalion weapons.

REVIEW OF THE ISSUES

The present state of U.S. Army marksmanship is not good. Opponents of decent marksmanship seem to see it as an outmoded and unnecessary skill. Technology, they say, can easily substitute for that skill.

But the possession of high technology is less valuable than the mastery of it. The Falkland Islands and Bekka Valley experiences alone prove this. Merely pointing a weapon in the general direction of a target and spraying hundreds of projectiles at it will not necessarily increase the likelihood of hitting it. In fact, poor marksmanship techniques combined with a high rate of fire may well result not only in reinforcing the miss and the near miss but in institutionalizing them.

Good shooters have known ever since the first rock was thrown in anger that one hit on a target is worth infinitely more than any number that are not. And a hit is a function of weapon, training, practice, and confidence.

Training two snipers per squad in an infantry battalion would require a high quality marksmanship program. Such a program should not, however, have the goal of training Olympic-caliber marksmen. Its goal should be to turn out better than average shooters — much better. Available technology would take care of the rest.

But shooting is only one part of a successful sniper's skills. He also must be well trained in target identification and acquisition, must be an expert at camouflage and undetected movement, and must be capable of operating either as part of a squad, in combination

with other snipers, or alone.

Whatever else a European battlefield may produce, it will not produce a shortage of targets. Any officer, forward observer, artilleryman, traffic controller, vehicle commander, driver, radio operator, or reconnaissance trooper who is exposed — however briefly — will be a priority target. With modern technology and adequate training, what the modern marksman can see, he can hit. And he can do so far more efficiently than contemporary small unit weapons and tactics permit.

The urban battlefield is truly three-dimensional. Sniping positions and opportunities are thus virtually unlimited. With more than 70 snipers per battalion operating on both sides of the FLOT (forward line of own troops), an infantry battalion would truly be able to see deep, attack deep, and apply combat power.

Snipers could focus less on the "average" target and go after the ones that would hurt the enemy the most at that time: leaders, forward observers, communications and logistics personnel, and drivers. Killing or wounding an officer hardly means a battle won, but it almost always hurts the enemy more than killing or wounding a private.

Contrary to the theory advanced by the detractors of marksmanship training — that the modern battlefield reduces the value of aimed fire and increases the value of volume fire — the modern battlefield to a substantial degree does the opposite. Individual targets will be more protected than in previous wars. Helmets, body armor, rubble, terrain, and vehicles all will make hits more difficult to obtain. Under these circumstances, precision aimed fire will provide results far superior to those of "cones of fire."

In addition, individual snipers or small sniper teams can move more rapidly with less likelihood of detection than even the rifle squad; and sniper fire will not only score more hits for less ammunition expended, but the reduced volume of fire required for those hits will be more difficult to trace and neutralize.

Snipers never have been either employed on a large scale or well integrated into the overall defense. In the U.S. Army in particular, this is not surprising: Virtually all U.S. urban combat in the past has been offensive, not defensive. But times have changed, both in terms of the likelihood of our being on the defensive and in terms of using the sniper to the best advantage while on the defensive.

One sniper cannot be "everywhere," of course. But dozens of them in each defensive sector can be *almost* everywhere, or will certainly *seem* to be. Since offensive urban combat is already slow and demanding, effective sniper fire would be very difficult to neutralize and thus would aggravate an already strained offensive situation. Neutralizing many snipers at once from all parts

of the battlefield would complicate the matter even further.

Heavy losses from unseen, difficult-to-neutralize snipers who seemed to be everywhere would increase the psychological strain on the attacker and further impair his morale and his effectiveness. Able to move more frequently than the rest of the battalion, snipers could appear again and again from supposedly "cleared" locations. The enemy would then have two options: reclear these areas, spending time and resources, or suffer higher losses (and increased psychological strain).

Snipers alone would probably win few battles. The same can be said for infantry alone, or armor alone, or artillery or airpower alone. But a well developed, imaginatively and aggressively employed large-scale sniper effort

could do for the Division 86 infantry battalion what no other combination of tactics, organization, and "advanced" weaponry could do: significantly increase mobility, cost-effectiveness, survivability and — most importantly — lethality. Best of all, the ones who stood to lose the most would be the ones who should. And isn't that what Division 86 is all about?



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Infantry Mortar Training

**MASTER SERGEANT ROBERT E. BREWSTER
MASTER SERGEANT CLINTON WILDER, JR.**

In today's Army there is a serious shortage of realistic, effective training devices for the Infantry's mortar platoons. Therefore, today's mortar crews are limited to three types of training: dry firing, subcaliber firing, or live firing with current service ammunition.

Dry firing is perhaps the most cost-effective method of training conducted by mortar platoons, but it is also the most tedious and unrealistic, and it does not give the forward observers or the ammunition bearers any training in their specialties. Training with subcaliber devices such as the sabot and the pneumatic firing device is an improvement over dry firing, but it is still not realistic, and it still does not provide any training for the ammunition bearers.

The use of service ammunition provides the best training, of course, but it is the most expensive. The expense of using service ammunition for training limits the amount of ammunition, thereby restricting training. As a result, training standards are lower than what commanders expect.

Within the next few years, all Army mortar platoons, 60mm, 81mm, and 120mm, may be capable of conducting their platoon ARTEPs on a field no longer than 600 meters in depth. This will be possible because of a new training device currently being co-developed by the Army Research and Development Center and the U.S. Army Infantry School. This training device, known as the "LITR" (low-cost indirect-fire training round), will be capable of adding realism to the

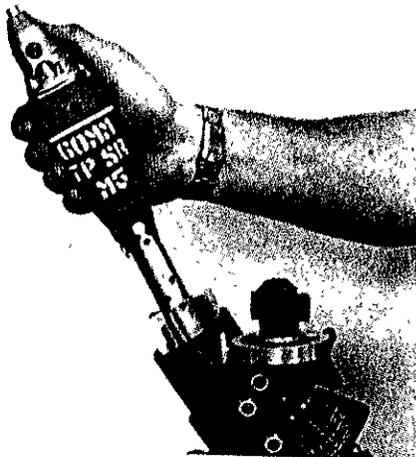
current training of our mortar crews and of providing all crew members with effective training in all aspects of mortar gunnery.

Because the LITR is a reasonable facsimile of the corresponding service ammunition, it will enable a mortar crew to practice realistic ammunition handling techniques, and it will give the forward observer an adjustment capability and the FDC the necessary training in FDC procedures.

The LITR's accuracy provides excellent target practice, because this full-caliber training round is equal in weight, shape, and operation to a tactical (standard) mortar cartridge.

The mortar and the sight are used exactly the same way they are used with standard ammunition. The LITR's range can be varied both by

elevation of the tube and by removal of increments. (The removal of LITR increments is simulated by removing plugs from the projectile.) The "safe" and "arm" mechanism of the fuze makes it safe to handle and fire. On impact, its spotting charge simulates a detonation by providing a flash, bang, and smoke signal. The fuze incorporates a selection button that simulates the "super quick" mode. The fuze assembly contains a cap similar to that on the multi-option fuze system.



fielded with the 120mm mortar system.

The LITR will be incorporated into the indirect-fire training system as the training round to be used instead of standard HE ammunition. It could be incorporated into live fire training exercises as well to reduce the cost of firing service ammunition. A one-tenth scale LITR, with smoke signature only, will be used by crews where there is no firing range — on parade fields, for example, or on large open areas — to increase effectiveness and realism and to reduce cost.

The approach that will be used in integrating the LITR into institutional and unit training programs will be based upon the standards outlined in the direct fire soldiers manuals, the

skill qualification test, and ARTEPs 7-15 and 71-2. Existing indirect-fire training programs will be revised or modified as appropriate to provide for the LITR.

In the future, the mortar platoon's indirect fire support is going to be relied upon more and more; company and battalion commanders must therefore have confidence in the ability of their "hip pocket artillery."

It has been said that to prepare for war you must have an adequate training program during peace — our mortar platoons have been "short changed" on training in the past, and the LITR may help even out this shortage.

The cost of this new training system (\$30 per 81mm mortar) will allow more rounds for training. Additional cost savings can be found in the refurbishing of the LITR once it has been fired. To refurbish the LITR, all that is necessary is to visually inspect the fired round, remove the old fuze and fin assembly, and replace it with a new fuze and fin. Total cost — approximately five dollars. Retrieving the fired round will be the responsibility of the crew that fired it, but it has not been decided whether the crew or direct support maintenance will refurbish the round.

Technical data on the proposed LITR rounds has been developed for all the 60mm, 81mm, and 120mm mortars, and testing is being conducted on the 60mm and 81mm rounds. The 120mm round will be



Master Sergeant Robert E. Brewster is assigned to the Directorate of Combat Developments at the Infantry School. He has served in mortar platoon assignments in Vietnam and with the 25th Infantry Division and 1st Cavalry Division.



Master Sergeant Clinton Wilder, Jr. is assigned to the Directorate of Training and Doctrine at the Infantry School. He was previously senior FDC instructor for the Infantry Mortar Platoon Course, and he also served in Vietnam.

The Indicating Round Technique

WARRANT OFFICER-2 KEITH F. HOYLE, British Army

Modern technology allows us not only to introduce new equipment, but also to give older systems and techniques a new lease on life. Although laser range finders have been with us

for some time and are used extensively on today's modern battlefield, they have not normally been used by Infantry soldiers at company level. In Great Britain, however, the hand-held laser

range finder (HHLRF) has given the mortar platoon a new and important procedure — the indicating round technique (IRT).

The IRT gives a forward observer

(FO) "first round hit" accuracy with less than a 50-meter error; it records multiple targets without actual adjustment; and it significantly lengthens the battle life of mortar crews by not requiring extra rounds that may be tracked by radar. The HHLRF allows the FO to have his position accurately plotted by the FDC, either on the plotting board or with the mortar ballistic computer (MBC).

The IRT uses geometric principles with two known angles and distances. The mortars and the observation post (OP) use a single round on the ground as a common data point. The mortar-men get the range and azimuth from the plotter, while the observers find the range and azimuth by using the HHLRF and a compass. The triangular relationship thus created allows a level of accuracy that has not been possible in the past.

This technology can also be used in areas where maps are either useless (large flat desert areas, for example) or non-existent. Indeed, once a mortarman has put his initial round on the ground, he may never again need to use his map for fire control.

The procedure is simple:

- Once the baseplates have been settled, the FO calls for an adjusting round to be placed into an open area. This open area must be safe to friendly forces, and the FO must be able to positively identify his round among other fires. He can use high-explosive or smoke ammunition.

- As soon as the round lands, the FO uses his HHLRF to obtain an accurate (plus or minus 10 meters) range to this round.

- He must also obtain an accurate (plus or minus 10 mils) grid azimuth using his compass. If he already has a

known point in the vicinity, he may use the reticle pattern in his binoculars to work out the grid azimuth. If the FO is uncertain of his ability, he may repeat these first three steps.

- The FO then sends an order to the FDC that will cause his position to be accurately plotted on the plotting board — for example, "Record OP, direction 1420 mils at drop 1,720 meters (range to fall of shot).

- The FDC uses the FO's information to backplot from the adjusting round that was fired into the open area. In this example, on the plotting board the FDC places the direction of 1420 mils above the index and, using the range arm (removed from the pivot point), measures down from the plot the range sent by the FO (1,720 meters), makes a plot there, and marks it with a symbol for an OP and the call sign of the FO. The OP may be given a user number if the FO has alternate positions. (The FDC may also record these alternate positions.)

- Once the OP is recorded, the observer can use the polar technique without adjustment and go straight into immediate suppression — "Fire for effect POLAR, OP3, direction 1260 mils, distance 1,000 meters, enemy platoon in open."

- At the FDC, the new azimuth or direction is indexed, the range is measured up from the OP, and a plot made. Charge, deflection, and elevation are obtained as usual.

This simple procedure uses one adjusting round to accurately locate an OP instead of a target. It also effectively lessens or removes any errors that may exist or that may be caused by the following:

- Inaccurate map reading at gun line during occupation or in the OP

when locating targets. (Remember that this technique can be used without a map.)

- Incorrect azimuth-related procedures during setting-up drills on the gun line.

- Any unaccountable meteorological effects, particularly wind.

- Any range table versus actual range error caused by ambient charge temperature.

The procedures outlined here are in their simplest form; other more complex operations can also be carried out using the HHLRF. And the information may be encoded to keep the enemy from finding the FO's location from the information he sends to the FDC. The use of the indicating round technique allows the forward observer to engage with effective accurate fire any target he can see without making lengthy adjustments that will usually give away his intention and allow the enemy to take evasive action.

Given the speed of modern mechanized warfare, we have to be able to retain the flexibility to hit the enemy quickly, forcefully, anywhere we wish without relying on him to move on or near our pre-recorded targets. Along with current and future ammunition types (including the GAMP round), the use of the indicating round technique will give us this flexibility.



Warrant Officer 2 Keith F. Hoyle is part of an exchange between the British School of Infantry and the U.S. Army Infantry School, where he is assigned to Company B, 1st Battalion, 29th Infantry to conduct mortar instruction.



ENLISTED CAREER NOTES



PROMOTION POINTS

A revised Promotion Point Worksheet (DA Form 3355) has been implemented for soldiers being recommended for promotion to sergeant and staff sergeant. (See INFANTRY, March-April 1985, p. 46.)

The revised form was implemented on 1 May for those being recommended for promotion to sergeant and 1 June for those being recommended for staff sergeant.

Promotion points will now be recomputed annually instead of semi-annually. The next recomputations will be in February 1986 for soldiers on the sergeant list and May 1986 for those on the staff sergeant list. From then on, points will be recomputed every February and May.

Soldiers will still be able to reappear before a promotion board earlier than the scheduled recomputation in order to add points for recent achievements.

SFC AND ANCOC BOARDS

A DA selection board will convene at Fort Ben Harrison, Indiana, on or about 1 October 1985 to consider eligible staff sergeants for promotion to sergeant first class. The board will also select staff sergeants to attend ANCOC in Fiscal year 1987 under provisions of AR 351-1 and identify unsatisfactory performers in accordance with Chapter 4, AR 600-200.

Promotion eligibility criteria are:

- Date of rank before and including 30 June 1983 and basic active service date up to and including 31 January 1980. (Primary zone — DOR 31 May 1982 and earlier; secondary zone — DOR 1 June 1982 through 30 June 1983.)

- High school diploma or GED equivalent.

- Not restricted from promotion consideration under provisions of Paragraphs 7-37 and 7-64, AR 600-200.

- Not denied reenlistment through QMP bar in accordance with Chapter 4, AR 600-200 or through locally imposed bar in accordance with AR 601-280.

For ANCOC, these criteria apply:

- Meet BASD and DOR criteria cited above for promotion.

- Not previously selected.

- Not denied reenlistment through either type of bar.

- Not graduated from ANCOC non-resident course.

QMP screening criteria are:

- Meet BASD and DOR criteria cited above.

- Meet those criteria and have approved local bar to reenlistment.

- Special bandsman within the BASD and DOR criteria cited.

“Complete the record” reports are optional. They may be submitted only for soldiers in the zone who have completed at least three months in their current duty positions as of 31 July 1985 and who have not been evaluated previously in their current positions.

Further information is available from local MILPOs or PACs, or from Master Sergeant McInnis, AUTOVON 225-4660; commercial 202/695-4660.

SP5s AND SP6s ELIMINATED

The Army will no longer have specialists five or six in its inventory after 1 October when soldiers in those ranks convert to “hard stripe” NCOs. Specialist fours will be retained, however. The soldiers affected will be able to obtain their new rank insignia through the Army supply system at no cost to them.

The decision to convert these spe-

cialists to NCO ranks was based on the recommendations of the proponents that have specialist ranks. The conversion process had already begun on an unofficial basis; many specialist five and six positions were already being filled by sergeants and staff sergeants. Specialist four slots, however, were almost all being filled by specialist fours.

Until 1 October, promotions into specialist five and six ranks will continue as in the past.

Commanders will still decide whether soldiers in pay grade E4 will be specialists or corporals in accordance with AR 611-201. Commanders may also laterally appoint specialists four who are serving in sergeant positions to corporal in accordance with Paragraph 2-43, AR 600-200.

AVIATION COURSE

The Enlisted Aviation Branch at MILPERCEN needs soldiers with MOSs in the 67 series (aircraft maintenance) and MOS 68J (aircraft fire control repairer) to apply for the Aviation Technical Inspector Course at Fort Eustis.

Graduates of the course will then be awarded a new MOS in the 66 series and must fulfill one of the service obligations listed in AR 614-200 (Selection of Enlisted Soldiers for Training and Assignment).

To qualify, applicants must:

- Be in the rank of sergeant or, for the 66J course, staff sergeant or promotable sergeant.

- Be eligible for reenlistment.

- Meet the prerequisites for MOSs in the 66 series as outlined in AR 611-201 (Enlisted Career Management Fields and Military Occupational Specialties).

Soldiers who meet these criteria and are interested should send applica-

tions through their unit commanders and MILPOs to Commander, MILPERCEN, ATTN: DAPC-EPT-F, 2461 Eisenhower Avenue, Alexandria, VA 22332-0400. DA Form 4187 (Personnel Actions Request) should be used for applications.

This training is funded by MILPERCEN. Soldiers can attend on a TDY and return basis or in conjunction with a PCS move.

More information is available from Master Sergeant Walter Cole or Sergeant First Class Newman at AUTOVON 221-8322 or 221-8323.

SEPARATING RC MEMBERS

Members of the National Guard and the U.S. Army Reserve who successfully complete their Initial Active Duty for Training (IADT) should be separated according to AR 635-200, Paragraph 4-2, and AR 612-201, paragraph 3-28. The special early release provisions of AR 635-200, Paragraph 16-9, do not apply.

Under AR 635-200, Paragraph 16-9, a commander may release a trainee early if the trainee is eligible for leave for reasons such as the death or serious illness of a member of his immediate family. In these cases, the commander may authorize early release from IADT instead of granting leave.

The soldier must have completed at least 12 weeks of IADT, and the training benefits that would result from his returning to the training center after leave must not be enough to justify that return.

The service of soldiers who are sepa-

rated during entry level status will not be characterized. For National Guard and Reserve members, entry level status begins when they enlist in the ARNG or USAR.

For soldiers on IADT for one continuous period, entry level status ends 180 days after they begin training. For those on IADT for the split or alternate training option, entry level status ends 90 days after they begin Phase II (advanced training). Soldiers who complete Phase I (basic training) remain in entry level status until 90 days after they begin Phase II.

This establishes a minimum requirement for the characterization of service and does not mean that the separation is adverse. A Guard or Reserve member who is separated while in entry level status does not receive an adverse separation. The completed DD Form 214 for these soldiers, showing the award of an MOS, the reenlistment code, and the narrative reason for separation, clearly shows that the soldiers' separation was not adverse.

More information is available from DAPC-EPA-AS, AUTOVON 221-8412 or 221-8413.

EFMP QUESTIONNAIRES

Soldiers enrolled in the Army's Exceptional Family Member Program (EFMP) who have not completed questionnaires in the DA Form 5291-R series must do so immediately.

To have their families' special needs considered, soldiers must now attach completed questionnaires to the DA

Form 4787-1 (Request for Evaluation of Dependent Medical or Educational Problems) that they send to their gaining commander.

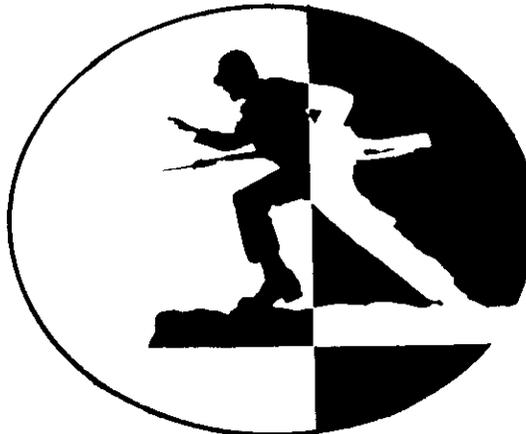
Since the EFMP was automated earlier this year, doctors' certificates and statements from teachers are no longer accepted.

Copies of these questionnaires are available from medical treatment facilities such as dispensaries and hospitals, or from the Army Community Service. Hospital and ACS workers can also help soldiers complete the questionnaires.

BASIC NCO COURSES

The following is the schedule of Basic Noncommissioned Officer Courses (BNCOC) to be offered at the United States Army Infantry School during FY 1986:

CLASS NUMBER	REPORT	CLOSE
BNCOC (Combat Arms, 11B)		
1	1 Oct 85	1 Nov 85
2	14 Nov 85	18 Dec 85
3	8 Jan 86	10 Feb 86
4	13 Feb 86	17 Mar 86
5	24 Mar 86	23 Apr 86
6	28 Apr 86	29 May 86
7	9 Jun 86	11 Jul 86
8	21 Jul 86	20 Aug 86
9	25 Aug 86	25 Sep 86
BNCOC (Combat Arms, 11C)		
1	1 Oct 85	1 Nov 85
3	8 Jan 86	10 Feb 86
5	24 Mar 86	23 Apr 86
7	9 Jun 86	11 Jul 86
BNCOC (Combat Arms, 11H)		
2	14 Nov 85	18 Dec 85
4	13 Feb 86	17 Mar 86
6	28 Apr 86	29 May 86
8	21 Jul 86	20 Aug 86



OFFICERS CAREER NOTES



BRANCH CHIEF'S NOTE

As I prepare to turn Infantry Branch over to Lieutenant Colonel Ted Reid, I offer a few insights that I have gained in the past year. Although I hope these insights will be meaningful to all Infantry officers, they are primarily aimed at our company grade officers and their commanders.

First, it may sound like a tired cliché, but the single most important factor in being a successful officer is to perform well in whatever job you get. The one common denominator in the careers of successful Infantry officers is the fact that they have served well in each job. All of my comments must be prefaced with that understanding.

One of the strengths of Infantry officers is their desire to stay with troops as long as possible. That's the way it should be, especially for company grade officers. The reality of Army priorities demands, however, that when most captains become branch qualified, they serve at least one assignment away from troops. To help both the Infantry officer and the Army, I recommend that battalion commanders not put officers into company command until after they have attended an advanced course. This will ensure that the officer has at least two troop tours early in his career when he needs it the most. It will also help soldiers in the units by giving them more mature commanders. Eighteen months is the average company command length, with commanders in short-tour areas serving for 12 months. Since only 90 percent of Infantry captains get commands, Infantry Branch discourages second commands except for Ranger companies and J-series headquarters companies.

As soon as an officer becomes branch qualified, he can expect his

next tour to be away from troops. This could be as an instructor in ROTC, at USMA, or at Fort Benning, or in an assignment in USAREC, in a major headquarters, or with the Reserve Components. Serving in the Infantry School at Fort Benning is one of the best ways to get credit for being away from troops while still staying close to our basic business, the Infantry. I recommend it.

Knowing that he must serve away from troops, each officer needs to consider the timing of that service. Since there are limited troop opportunities for majors, our first priority at Infantry Branch is for troop opportunities to go to those who are qualified to serve in those positions and who also have been away from troops. Serving away from troops as a senior captain will put an officer in a better position to get back to troops as a major. This is especially important for Infantry officers who want a shot at commanding a battalion. Recent battalion command lists show that the selectees have an average of about 20 months as battalion S-3 or XO, or brigade S-3 and that very few have been selected without having held any of these jobs.

An examination of promotion statistics verifies that virtually all officers promoted to lieutenant colonel have attained Military Education Level (MEL) 4 by completing staff college, either resident or nonresident. Any officer who is not selected to attend during his first two years of eligibility should enroll and start the course as a nonresident immediately so that he can be assured of completing it before being considered for lieutenant colonel.

Finally, I urge all Infantry officers, especially commanders, to become familiar with Chapter 11 of DA Pamphlet 600-3 and all Special Operations

officers to also become familiar with Chapter 18. These chapters provide the proponent's guidance on professional development. In instances where a commander is still not sure how a personnel action may affect him or one of his subordinates, Infantry Branch can either help him assess the effect or refer him to the appropriate expert.

I leave Infantry Branch proud of its dedication to Infantry officers. My commitment during my tenure has been to provide totally honest, fair, and sensitive service to tested professionals. I hope that this commitment has been evident in the field. I leave confident that Colonel Reid will serve you well as Branch Chief.

LTC Bill Hoyman

REVISED OPMS

The implementation of the revised Officer Personnel Management System (OPMS) will gradually change the officer corps from a dual specialty system to one in which officers will be managed, developed, and promoted by branch or functional area or both. (See *INFANTRY*, July-August 1985, p. 47.)

Plans for the transition are being developed at MILPERCEN. As part of that process, individual qualifications will be reviewed, and the desires of the officers affected will be solicited before a decision is made on reclassification. Many of the officers who have grown up under the current OPMS will be "grandfathered" if they are considered equally qualified in both of their currently held branch specialties. This means, for example, that an officer who holds specialties 11 and 92 (Infantry and Quartermaster branches) and is found to be qualified in both, may retain those specialties.

Officers not qualified in their currently designated branch additional specialty will be given an opportunity to request a new functional area. Officers whose qualification in their second branch is far stronger than in Infantry will be given an opportunity to request transfer into their second branch. A decision on allowing officers to hold a combination of SCs 18 and 48 or 18 and 54 is pending a detailed review by the Special Operations proponent.) Under the revised OPMS, officers will have only one branch and one functional area. Full implementation of the revised classification system is expected in FY 1987.

Officers in Year Group 1979 are scheduled to have additional specialties (functional areas) designated in late 1985. All infantrymen are expected to be designated into functional areas instead of into specialties or other branches as we make the transition to one branch per officer.

SERVICE OBLIGATIONS

There is still some confusion among officers concerning the active duty service obligations they incur as a result of schooling, promotion, or permanent changes of station.

To help clear up some of the confusion, here are a number of situations with the service obligation each incurs:

- **United States Military Academy** — Five years from entry on active duty.
- **ROTC Scholarship Graduate** — Four years from entry on active duty.
- **ROTC Non-Scholarship Graduate** — Three years from entry on active duty.
- **Officer Candidate School** — Three years from date of appointment.
- **Commandant's Program, Officer Basic Course (OBC)** — Three years from day following completion of OBC.
- **PCS (Overseas to CONUS)** — One year.
- **PCS (CONUS to Overseas)** — Prescribed tour length.

- **Senior Service College** — Two years from completion or termination of course.

- **Command and Staff College** — Two years from completion or termination of course.

- **Officer Advanced Course (OAC)** — One year from day following completion or termination of course.

- **Promotion to Major** — Six months to retire in rank of major.

- **Promotion to Lieutenant Colonel or Colonel** — Three years to retire in same grade.

- **Funded or Partially Funded Schooling** — Three times the length of schooling in days, but not more than six years, except for officers who accept a fellowship, scholarship, or grant to attend civil schooling under provisions of AR 621-7. These officers may exceed the six-year active duty service obligation.

- **Conditional Voluntary Indefinite (CVI)** — One year from day following completion of current service agreement.

The governing regulation is AR 350-100, Officer Active Duty Service Obligations. Specific questions concerning this regulation may be addressed to the Personnel Actions Branch, MILPERCEN, AUTOVON 221-9421/0686.

COMMANDERS' ROLE IN CVI SELECTION PROCESS

The newly implemented centralized Conditional Voluntary Indefinite (CVI) selection process presents new challenges to commanders in the professional development of their other-than-Regular Army (OTRA) officers.

Unlike RA officers, who remain in career status as long as they are competitive for promotion, OTRA officers must compete for CVI status. (See INFANTRY, January-February 1985, p. 45.)

Because a centralized CVI selection board at MILPERCEN selects only the best-qualified OTRA officers to continue on active duty, the documentation of an OTRA officer's early performance is critical. It is important,

therefore, for all commanders to fully understand the CVI process, the criteria for selection, and the effect initial and subsequent OERs have on the careers of their junior officers. Otherwise, deserving young officers may be denied the opportunity to develop fully on active duty.

CVI applications are forwarded through command channels once an officer meets certain minimum requirements. Specifically, he must have at least two years of active federal commissioned service (AFCS) on his current tour and must submit his application before his 27th month of AFCS. (This requirement applies to both three- and four-year OBV officers.)

More important, the officer must be willing to accept a branch transfer, if necessary, as part of being awarded CVI status. During professional counseling, commanders should explain to their OTRA officers that rebranching of junior grade officers is necessary to meet Army officer requirements at the captain and field grade levels.

Commanders must also advise their Reserve officers that even top performers may be chosen for mandatory re-branching. This means that each officer should consider carefully before indicating his preference for branch transfer, because his choice may have long-term consequences.

Officers who are not selected for retention will have to separate within 90 days of written notification, or at the end of their initial obligated tour, whichever is later.

Officers must understand, too, that there are no regulatory provisions for appeals for reconsideration, unless there has been a material positive change to their Official Military Personnel Files (OMPFs). Active duty extensions will not be granted pending results of requests for consideration, or pending the outcome of OER appeals.

Commanders should know that once an OTRA officer has been selected for CVI status, the first year is probationary, and the officer incurs a one-year active duty service obligation.

To the commander, this means that misconduct, failure at an Army-sponsored school, or a decline in duty performance are reasons to revoke the officer's CVI status. (If CVI status is revoked during the probationary period, the officer will separate from active duty within 90 days.)

On the other hand, commanders must make sure that officers who are slow to develop, but who show potential for future service, have their duty performance documented so that it clearly indicates that potential. Commanders should be aware, too, that OERs designed to "get an officer's attention" will likely deny him continued active duty.

A commander who completely un-

derstands the CVI selection process and its effect on career status will meet the command challenge of being mentor and coach to his junior officers. To do otherwise is a disservice to our high-quality OTRA officers.

CAS³ SCHEDULING

Current Army policy is that all officers in Year Group 1977 or later must attend the Combined Arms and Services Staff School (CAS³) between their sixth and ninth years of active Federal Commissioned service. There are two ways to do this:

During the normal PCS process, an officer may be scheduled to attend the

course on a TDY basis enroute to his next duty station. Or, while still serving at an installation, an officer can attend in a TDY and return status. This latter method requires chain of command approval, followed by notification to MILPERCEN for scheduling of class dates.

The class schedule for Fiscal Year 1986 is as follows:

CLASS	START	CLOSE
1-86	8 Oct 85	13 Dec 85
2-86	8 Jan 86	14 Mar 86
3-86	29 Jan 86	4 Apr 86
4-86	20 Mar 86	23 May 86
5-86	10 Apr 86	13 Jun 86
6-86	29 May 86	1 Aug 86
7-86	19 Jun 86	22 Aug 86
8-86	1 Aug 86	10 Oct 86
9-86	27 Aug 86	31 Oct 86

RESERVE COMPONENT NOTES

CAS³ OPEN TO RC CAPTAINS AND MAJORS

The Combined Arms and Services Staff School Course, offered at Fort Leavenworth, Kansas, consists of a 142-hour nonresident phase and a nine-week resident phase.

The course is open to Reserve Component captains and majors with certificates from the officer advanced course and less than 13 years of total commissioned service. Applicants must also have recent height-weight statements easily accessible.

The Army Reserve is allocated 27 spaces for the resident phase in FY 1986, nine in each of the last three classes — Classes 7, 8, and 9. (The entire CAS³ schedule for FY 1986 is shown elsewhere in this section of the magazine.)

USAR officers interested in attending Phase II in FY 1986 should enroll immediately in the requisite nonresident Phase I to have enough time to complete this phase before applying for the resident phase.

Applications for Phase I should be submitted through appropriate channels and through Commander, ARPERCEN, ATTN: DARP-OPM-P, to Commandant USACGSC, ATTN:

ATZI-SWE-TM, Fort Leavenworth, KS 66327-6930.

Upon completion of Phase I and verification of academic eligibility to attend Phase II, applications for active duty for training will be forwarded through appropriate channels to ARPERCEN for quota reservations, funding, and orders.

Active Guard Reserve (AGR) officers who are interested in attending should contact their personnel management officers at ARPERCEN.

The point of contact at ARPERCEN is MAJ Cone, AUTOVON 693-7707; at Office of the Chief, Army Reserve, Mr. Paxton or Ms. McGrew, AUTOVON 225-9866.

RECORDS HELP (OR HINDER) USAR PROMOTIONS

Each officer in the U.S. Army Reserve must take the initiative to see that his record is complete. But unit commanders also share in this responsibility.

Recent promotion boards have identified recurring deficiencies in OER preparation that have had a negative effect on the officers being considered:

- Inconsistencies between narrative comments and numerical ratings. (If an officer deserves "top block" ratings, the rater should tell why in the narrative.)

- Brief narratives, which may indicate a reluctance to comment on an officer's potential; a subtle intent to rate him lower than the numbers indicate; or the rating officer's misunderstanding of the procedures shown in AR 623-105.

- A failure to indicate specific and comprehensive comments on the rated officer's potential, which implies that the officer's potential is limited.

- Height-weight data on OERs that conflicts with data from other sources. (It is not likely, for example, that an officer grows one or two inches just before the end of each rating period.)

Unit commanders are responsible for submitting OERs on time, through channels. Boards cannot consider OERs that are submitted by the officers being rated — only those submitted by supervisors.

It is to every Reservist's advantage to stay in touch with his ARPERCEN Personnel Management Officer to do everything that is required to see that his records are up to date and complete.

BOOK REVIEWS



Here again are a number of recent publications we think you will find both interesting and informative:

• **BEFORE THE BATTLE: A COMMONSENSE GUIDE TO LEADERSHIP AND MANAGEMENT**, by Lieutenant General Edward M. Flanagan, Jr., United States Army Retired. Presidio Press, 1985. 228 Pages. \$10.95, Softbound. From "administration" through "wives" (and his "43 Commandments") the author spells out those things he feels he learned about military leadership during his more than three decades of service. All told, he discusses 76 different topics, which are arranged in alphabetical order. Each essay is relatively short, but all are about ways, means, and methods a troop commander can use to do his job better, more successfully, at the same time keeping the interests of his soldiers at heart.

• **AND BRAVE MEN, TOO**, by Timothy S. Lowry, Crown, 1985. 246 Pages. \$14.95. This book contains the very personal interviews the author conducted with 14 Medal of Honor winners from the Vietnam War in which the men describe the events surrounding their awards. It also contains the author's reflections on his own service in Vietnam — two combat tours there as a Marine — as well as the happenings in the United States while the events of the war were unfolding.

• **THE CONGRESSIONAL MEDAL OF HONOR: THE NAMES, THE DEEDS**. Sharp and Dunnigan, 1984. 1,105 Pages. \$27.50. This is an outstanding reference book, detailed, authentic, informative. It contains a history of the medal — first presented in 1863 — and the award citations arranged by war, campaign, conflict, or era. A total of 3,412 medals have been awarded for gallantry during wartime, and a handful of others —

17 — awarded by special legislation. The book also has five tables that complement the citations by providing much useful information about the medal and its recipients.

• **ROYAL UNITED SERVICES INSTITUTE AND BRASSEY'S DEFENCE YEARBOOK, 1985**, edited by the Royal United Services Institute for Defence Studies, London. Pergamon, 1985. 381 Pages. \$47.00. Once again infantrymen can find much in this annual publication that is of professional interest. There are essays by acknowledged experts on all sorts of subjects that range from an overview of the world scene to military technology, strategic issues, and a review of the year's defense literature. Of particular interest are the essays on land weapon developments during 1984 and the outline of the main trends in Soviet thinking about land operations in the European theater, both by Chris Bellamy, a British author who has written extensively on defense matters.

• **THE STARS AND STRIPES: WORLD WAR II FRONT PAGES**. Hugh Lauter Levin Associates, Incorporated, New York, 1985. \$19.95. Here is a representative selection of the front pages reproduced from a number of the more than 30 different editions of "Stars and Stripes" printed during World War II. The covers trace the events of the war from April 1942 — when the newspaper was reestablished in England — to October 1945, with the last cover being that of the 6 October 1945 issue of the China edition. The covers make fascinating reading and should bring back a veritable flood of memories to all World War II veterans and their families. They also contain much material of pure historical interest.

• **THE RED DEVILS**, by G.G. Norton. David and Charles, 1984.

310 Pages. \$22.50. Here is a new edition — the first was published in 1971 — in the publishers series titled "Famous Regiments." The author served with the British airborne forces on two separate occasions and is now the curator of the Airborne Forces Museum. He brings the story of the British airborne forces up-to-date with chapters on Northern Ireland and the fighting in the Falklands Islands. More than 100 photographs and illustrations complement a well-ordered narrative.

• **1986 MILITARY HISTORY CALENDAR**, by Raymond R. Lyman. Paladin Press, 1985. \$8.95. This unique and unusual calendar is in its second year of publication. This edition has all new photographs and much new information. Each day highlights a modern military event, and the calendar itself is illustrated with 48 photographs. This would make an excellent holiday gift for the military history student or buff. It can also serve as a useful reference tool.

The Battery Press of Nashville, Tennessee, has sent us copies of its two latest reprints of books that have been out of print for some time. They are **SINAI VICTORY**, by S.L.A. Marshall (280 Pages. 1985. \$18.95), an account of Israel's 100-hour conquest of Egypt east of the Suez Canal in 1956, and **PATHS OF ARMOR: THE 5th ARMORED DIVISION IN WORLD WAR II** (358 Pages, 1985. \$25.00), which was originally published in 1950; it is the 27th release in the Press's divisional series.

Finally, we would call your attention to these recent publications from the Government Printing Office:

• **INFANTRY, PART I: ARMY LINEAGE SERIES**, by John K. Mahon and Romana Danysh (1984 Reprint of the 1972 Edition. 954

Pages. \$21.00. S/N 008-029-00082-2). This volume in the Army's lineage series deals with the organization of foot units at the level of regiment and below. It begins with the Continental Army and goes through the Vietnam War.

• **1985 WEAPON SYSTEMS, UNITED STATES ARMY** (1985. 160 Pages. \$8.00, Softbound. S/N 008-020-01024-3). This publication concentrates on weapon systems and other equipment products of the Army's Research Development and Acquisition (RDA) program.

• **SOVIET MILITARY POWER, 1985** (4th Edition, 1985. 144 Pages. \$6.00, Softbound. S/N 008-000-00410-2). The information in this publication can be used as a valuable starting point from which to measure the current and projected strengths, trends, and global military capabilities of the Soviet Union's armed forces. It also provides a detailed report on the structure of the Soviet military services and examines the introduction of new nuclear and conventional Soviet military capabilities.

• **THE U.S. GOVERNMENT AND THE VIETNAM WAR, PART II: 1961-1964. THE EXECUTIVE AND LEGISLATIVE ROLES AND RELATIONSHIPS** (Prepared for the Committee on Foreign Relations, United States Senate. 1984. 424 Pages Softbound). This volume is part of an overall study of the roles and relationships of the Executive Branch and Congress in the Vietnam War; it describes events during the 1961-1964 period as the United States became progressively more involved in the Vietnam struggle. It has been prepared by the Congressional Research Service of the Library of Congress. The author is William Conrad Gibbons.

And here are a number of our longer reviews:

NO MORE VIETNAMS. By Richard Nixon (Arbor House, 1985. 240 Pages. \$14.95). Reviewed by Doctor Joe P. Dunn, Converse College.

Like all five books he has written since he left the White House, this volume is classic Richard Nixon —

emphatic, provocative, pugilistic, polemic, and self-serving. Despite the fact that it contains nothing new (most of the material reiterates Nixon's earlier memoirs), and that the basic points are much better developed by other scholars — Podhoretz, Palmer, Summers, and Lomperis, to name a few — the book does have merit and it will attract attention.

Nixon begins with the premise that no event in U.S. history has been as misunderstood, misreported, misrepresented, and misjudged as Vietnam. He outlines a list of myths, distortions, and falsehoods about the war and strives to refute them. In particular, he addresses four "articles of faith" of the anti-war movement: (1) the war was immoral, (2) it was unwinnable, (3) diplomacy without force is the best response to communist wars of national liberation, and (4) the U.S. was on the wrong side of history in Vietnam. Concomitantly, he debunks other canards — the struggle as a civil war, Ho Chi Minh as a selfless nationalist, the romantic popularity of the Viet Cong, the indiscriminate destruction of the U.S. combat effort, U.S. complicity in the triumph of the Khmer Rouge, and others.

The book does offer healthy correctives, but if we are to believe the author, Nixon consistently made the right decisions, he made the hard but moral choices, and his steadfastness won the war. Then Congress, in a spasm of irresponsibility, threw away the long and costly victory.

In brief sum, it just is not that simple, and Nixon bears far more guilt than he would begin to admit. Therefore, this is a book for the already convinced. It is a strong and good statement of some necessary truths, but it will not convince many skeptics.

TOURING NAM: THE VIETNAM READER, edited by Martin H. Greenberg and Augustus Richard Norton (William Morrow, 1985. \$16.95). Reviewed by Doctor Mike Fisher, University of Kansas.

As the shadows of the Vietnam War lengthen, literary interest in the conflict continues to increase. This volume adds to the growing body of recent Vietnam War literature as our nation continues to review, reevaluate, and revise the emerging story of the trauma that consumed this nation during the 1960s and early 1970s.

In their book, Greenberg and Norton develop thematically an anthology of personal reflections, journalistic accounts, and fictional excerpts, following the chronology of an American serviceman's tour of duty in Vietnam. The selections range from a soldier's initial arrival and random assignment at a replacement depot through a variety of combat and support duties interrupted by brief interludes of rest and relaxation that broke either the terror or the tedium that represented the polarization of life in Vietnam. Finally, the editors move full circle by introducing the reader to the disillusionment that confronted many veterans home from the war.

The anthology focuses on three essential themes. First, it emphasizes the vast differences that separated the experiences of the individual soldiers who served in Vietnam. Duty in the central highlands with a combat infantry unit, for example, contrasted markedly with duty in a support unit in Saigon.

Second, the elements challenged infantrymen with the ferocity that equalled that of the enemy. Most veterans, even after nearly 20 years, remember graphically the constant wetness, the furnace-like heat, and the scorching sun that set and defined the war's stage.

Finally, the selections in this book reemphasize just how tough the war was, tough enough, in the words of one infantry sergeant, that a man would trade an arm to get home alive.

Time tends to obscure the hardship, terror, boredom, and disappointment that made Vietnam similar to all other wars. Politics and ideology briefly obscured the effort and sacrifice with which most Americans faced those hardships and challenges. During a

conflict some termed a war without heroes, there emerged warriors the equal of any American infantryman who ever laid stock to shoulder in anger.

In this book, the darker side also emerges, for Vietnam did not lack for the cowards, opportunists, and incompetents that have plagued societies as well as armies since time immemorial. Veterans will recognize these caricatures of the small minority that only slightly flaw the dominant theme of courage, sacrifice, and dedication that permeate these pages.

This anthology tells the story of those who served rather than directed. Infantrymen may review the material and assess their readiness in the stark light of Vietnam viewed and remembered.

THE ANTAGONISTS: A COMPARATIVE COMBAT ASSESSMENT OF THE SOVIET AND AMERICAN SOLDIER, by Richard A. Gabriel (Greenwood Press, 1984. 208 Pages). Reviewed by Major Don Rightmyer, United States Air Force.

The thought probably occurs periodically to every U.S. fighting man: How would I stack up in combat against my Soviet counterpart? How do my training, my lifestyle, my attitudes, and the leaders both above and below me prepare me for that potential encounter on a battlefield somewhere in the world? Where does the U.S. Army stand today in comparison with the Soviet Army in combat capabilities?

Richard Gabriel tries to provide some insights into these questions through the pages of this book. He begins by examining the two armies, and he characterizes the Soviet force as very much structured along traditional European lines. Gabriel then looks at the soldiers, the noncommissioned officers, and the officers in both armies.

He depicts the Soviet soldier as better educated and more intelligent, better trained, and subject to far tighter discipline than his U.S. equivalent. Gabriel feels that today's U.S. soldier, in fact, is far less capable than the U.S.

soldier of the Vietnam era.

He feels that in its ranks of noncommissioned officers, the U.S. Army has many problems in leadership and training, but that the Soviets have not been able to establish a viable career NCO corps. Thus, many junior Soviet officers perform duties that an NCO would normally carry out.

Both armies, according to Gabriel, are officer-heavy. He feels that the ideal officer strength should be about five to six percent of the total troop strength compared to 11 percent in the U.S. Army and about 17 percent in the Soviet Army. Much of his analysis of the U.S. officer corps is based on the experiences of U.S. officers in Vietnam, and he does not feel there has been much improvement since then.

In the final analysis, Gabriel is unwilling to draw any conclusions about which side would come out the winner in any confrontation. He provides many interesting comments on our own Army's shortcomings but very little on the way we might do things differently. His is a thought-provoking work that should receive attention from generals, officers, and noncommissioned officers throughout the Army.

SOVIET ARMED FORCES REVIEW ANNUAL: VOLUME 7, 1982-1983. Edited by David R. Jones (Academic International Press, 1984. 490 Pages. \$64.50). Reviewed by Alexander S. Birkos, Mount Shasta, California.

This latest volume in the SAFRA series continues to reflect a high standard of scholarship and analysis in assessing the Soviet defense establishment from mid-1982 through late 1983.

Although the USSR persists in expanding and modernizing its military forces, the pace appears to be slackening off. The drive for technical modernity in arms and equipment is fully matched by a quest for updated tactics, doctrine, and organizational forms.

As the various contributors to this volume demonstrate in their articles,

the Soviet armed forces have their full measure of internal problems, not the least of which are poor discipline and morale, an ethnic and demographic shift that will challenge Slavic dominance, and an increasingly aging industrial base. Moreover, the Soviet Navy has suffered a rash of accidents and mutinies, now capped by recent, tough doctrinal debates that may portend Admiral Gorskhov's retirement.

From the perspective of a professional military officer, Christopher Jones's article titled "Warsaw Pact Exercises: The Genesis of a Greater Socialist Army?" should prove thought provoking. The Soviets are experimenting with tactical and doctrinal standardization within the Warsaw Pact to achieve a greater level of operational efficiency and coordination between Soviet and non-Soviet units. This trend certainly calls for continued observation and study as it is only one aspect of the Soviet move toward attaining higher combat effectiveness and efficiency.

In addition to its informative articles, this volume contains a chronology of military events, a bibliography, and numerous tables, charts, and statistical data. It is recommended for all Army officers and for scholars of Soviet military affairs.

CRAZY HORSE CALLED THEM WALK-A-HEAPS, by Neil B. Thompson (North Star Press, 1979. 150 Pages. \$9.95).

LIFE AND MANNERS IN THE FRONTIER ARMY, by Oliver Knight (University of Oklahoma Press, 1978. 280 Pages. \$12.95.) Both books reviewed by Captain Harold E. Raugh, Jr., United States Army.

Both of these well-researched books are about the "Old Army," the Regular Army force that from the end of the Civil War in 1865 to Wounded Knee in 1890 was engaged in securing the western plains for occupation and settlement by the white man.

Neil Thompson's book is primarily about the frontier foot soldier, the Infantryman and his way of life. It is

filled with interesting, little-known facts and figures. It includes not only the stories of men, officers, posts, and campaigns but also stories of the events that led up to the Custer massacre in 1876. It was this "notorious" battle, according to Thompson, that shocked the Army's bureaucracy and officials out of their entrenched complacency and forced them to seek improvements in the Army's training, living standards, and tactics, all of which eventually resulted in the genesis of the modern Army. Many photographs and line drawings, a comprehensive 15-page bibliography, and complete endnotes complement the book's readability and provide numerous references for further research.

On the other hand, Oliver Knight's book begins where hard facts end. This book tells of the social values, lifestyles, atmosphere, and detailed daily routines of the frontier army. Based on the writings of Captain Charles King, with some of the details filled in by the few existing memoirs from that period, Knight creates an interesting social history.

King served in the Army from 1866 until disabled by wounds in 1879, serving almost all of the last 10 years of his service campaigning on the frontier. He wrote 29 full-length

novels about soldiering in the West, most of them about places and events he knew of personally, and one non-fiction work, *Campaigning with Crook*.

By taking numerous episodes from King's books, supplementing them with the material from the published memoirs, Knight has admirably reconstructed the little-known social and routine life of the frontier army. This is the kind of information seldom found in official histories and documents, and it serves to illuminate the human side of military history.

These books complement each other nicely and should be considered indispensable reading for the "Old Army" enthusiast.

SURGEON ON IWO: UP FRONT WITH THE 27th MARINES. By James S. Vedder (Presidio Press, 1984. 226 Pages. \$15.95). Reviewed by Captain F.R. Hayse, United States Army.

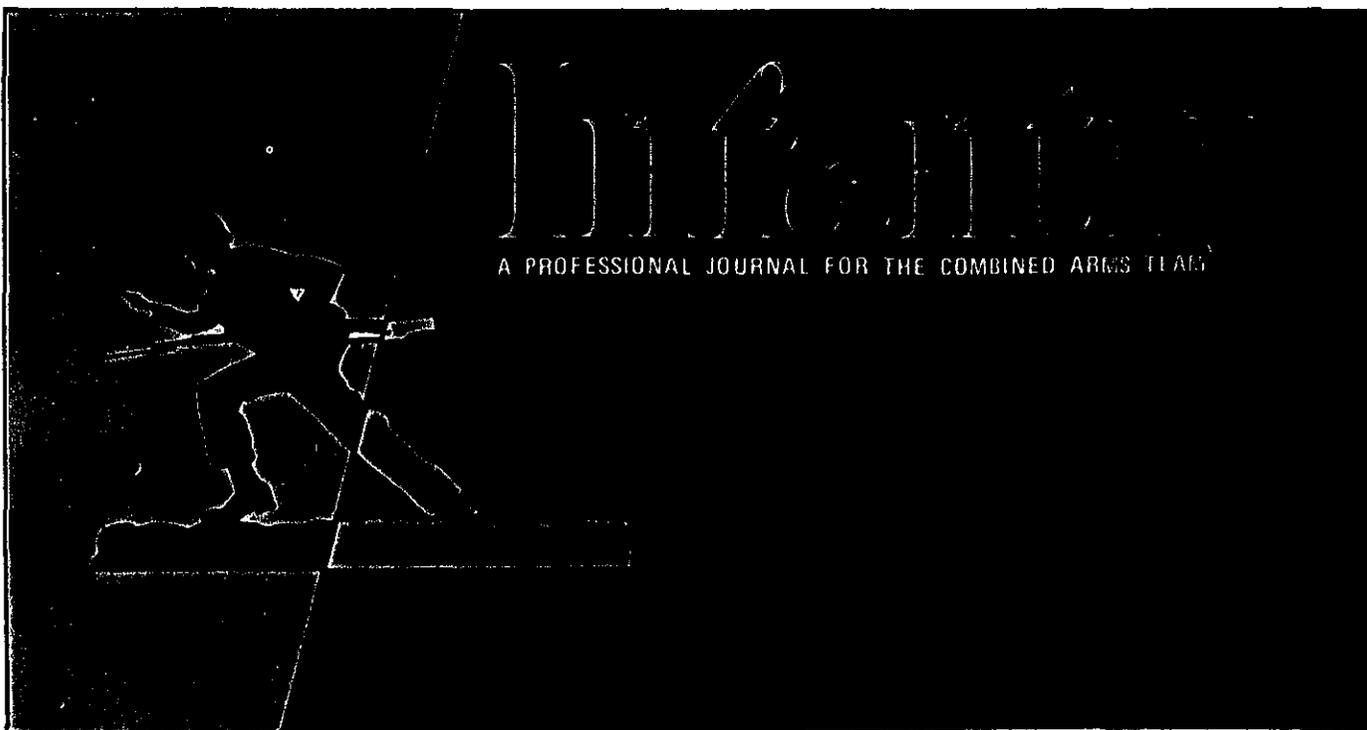
On 19 March 1945, the 3d, 4th, and 5th U.S. Marine Corps divisions attacked the Japanese-held island of Iwo Jima; the planners claimed the whole operation would take only four days — two to capture the island, a

third to eliminate the remnants of the enemy forces, and a fourth to load the assault forces on their ships for movement to Okinawa.

Thirty-two days later, the remnants of the task force, which had suffered 24,800 casualties in its attack on an island barely 9,500 yards long and 4,500 yards wide, were finally able to secure Iwo Jima and sail for Okinawa.

The author of this book was a U.S. Navy doctor assigned as the battalion surgeon of the 3d Battalion, 27th Marines, a part of the 5th Marine Division, during his unit's 32-day ordeal on Iwo Jima. Doctor Vedder's forward aid station treated about 800 casualties; the 3d Battalion itself lost more than 700 of its original 963-man force.

Vedder's book, like many such personal combat narratives, is a story of individual fear and valor, of hardship, error, comedy, despair, hope, and death. It is the story of "green" Marine units getting "blooded" in their first battles; of individual initiative and common sense solutions to seemingly impossible situations; of the importance of unit spirit and cohesion; of the silliness of trying to enforce bureaucratic garrison regulations amid the turmoil of the battle-



field; and of the casualties that are the inevitable result of high level political maneuvering in wartime.

But unlike many similar books, Vedder's is a story of combat actions interestingly told from the perspective of a medical officer and not a grunt, one that gives the reader a personal look at the battle from someone who had access to the reasoning behind the decisions made at battalion and regimental levels. More important, it shows what seems to be the American way of war — large groups of green or not quite trained troops with lots of new equipment, being led into battle against a veteran enemy by a few experienced officers and noncommissioned officers.

Readers should find Vedder's book a different type of narrative, one that is new and interesting as well about a now-famous battle.

RECENT AND RECOMMENDED

BLACKS IN THE AMERICAN ARMED FORCES, 1776-1983: A BIBLIOGRAPHY. Compiled by Lenwood G. Davis and George Hill. Greenwood Press, 1985. 232 Pages. \$35.00.
PHOTOHISTORY OF TANKS IN TWO WORLD WARS. By George Forty. Sterling, 1985. 190 Pages. \$17.95.
FIGHTING MACHINES OF WORLD WAR II. By B.T. White. Sterling, 1985. 127 Pages. \$14.95.
DON'T CRY FOR US. By Ralph E.G. Sinke, Jr.

Illustrated by W.P. Wass. Regs Enterprises, 1984. 124 Pages. \$12.95.
THE AR15/M16: A PRACTICAL GUIDE. By Duncan Long. Paladin Press, 1985. 160 Pages. \$17.95, Softbound.
TRUPPENDIENST-TASCHENBUCHER, BAND 3: FREMDE HEER: DIE ARMEEN DER NATO-STAATEN. VIENNA: Verlag Carl Ueberreuter, 1984. 704 Pages. oS195, Softbound.
BARBAROSSA: THE RUSSIAN-GERMAN CONFLICT, 1941-45. By Alan Clark. A Reprint of the 1965 Edition with a New Preface by the Author. William Morrow, 1985. 522 Pages. \$12.95, Softbound.
THE U.S. GOVERNMENT AND THE VIETNAM WAR, PART II. S/N 052-070-06002-6. U.S. Government Printing Office, 1985. 440 Pages. \$10.00, Softbound.
UNITED STATES ARMY IN WORLD WAR II: THE SUPREME COMMAND. By Forrest C. Pogue. Reprint of the 1954 Edition. S/N 008-029-00076-8. U.S. Government Printing Office, 1978. 634 Pages. \$18.00.
UNITED STATES ARMY IN THE KOREAN WAR: SOUTH TO THE NAKTONG, NORTH TO THE YALU. By Roy E. Appleman. Reprint of the 1961 Edition. S/N 008-029-00079-2. U.S. Government Printing Office, 1981. 840 Pages. \$25.50.
THE SOVIET-CUBAN CONNECTION IN CENTRAL AMERICA AND THE CARIBBEAN. Released by the Department of State and Department of Defense, March 1985. Government Printing Office, S/N 008-000-00419-6. 48 Pages. \$2.25, Softbound.
THE U.S. RAPID DEPLOYMENT FORCES. By David Eshel. ARCO, 1985. 208 Pages. \$19.95.
SUTHERLAND'S WAR. By Douglas Sutherland, David and Charles, 1985. 184 Pages. \$16.95.
SOVIET SPACE PROGRAMS: 1976-1980, UNMANNED SPACE ACTIVITIES. Government Printing Office, 1985. S/N 052-070-06029-8. 396 Pages. \$8.50, Softbound.

STORMING HITLER'S RHINE: THE ALLIED ASSAULT, FEBRUARY-MAY 1945. By William B. Breuer. St. Martin's Press, 1985. 308 Pages. \$18.95.
ALL THE U.S. AIR FORCE AIRPLANES, 1907-1984. By Andrew W. Waters. Hippocrene Books, 1985. 413 Pages. \$14.95.
YES, YOUR EXCELLENCY. By V.E.O. Stevenson-Hamilton. London: Thomas Harmsworth, 1985. 229 Pages.
SOUTH AFRICAN WAR MACHINE. By Helmoed-Roemer Heitman. Presidio Press, 1985. 192 Pages. \$20.00.
THE CIVIL WAR QUIZ AND FACT BOOK. By Rod Gragg. Harper and Row, 1985. 210 Pages. \$8.95, Softbound.
JOHN MASEFIELD'S LETTERS FROM THE FRONT, 1915-1917. Edited by Peter Vansittart. Franklin Watts, 1985. 320 Pages. \$18.95.
ROME'S ENEMIES: GALLIC AND BRITISH CELTS. Text by Peter Wilcox. Color Plates by Angus McBride. Osprey, 1985. Men-at-Arms Series #158. 48 Pages. \$7.95, Softbound.
NAPOLEON'S GUARD INFANTRY (2). Text by Philip Haythornthwaite. Color Plates by Bryan Fosten. Osprey, 1985. Men-at-Arms series #160. 48 Pages. \$7.95, Softbound.
THE SPANISH FOREIGN LEGION. Text by John Seurr. Color Plates by Bryan Fosten. Osprey, 1985. Men-at-Arms Series #161. 48 Pages. \$7.95, Softbound.
JAPAN SOLO: A PRACTICAL GUIDE FOR INDEPENDENT TRAVELERS. By Eiji Kanno. Tuttle, 1985. 256 Pages. \$15.00.
THE HEIGHTS OF COURAGE: A TANK LEADER'S WAR ON THE GOLAN HEIGHTS. By Avigdor Kahalani. Greenwood Press, 1984. 198 Pages. \$27.95.
OUTRAGEOUS FORTUNE: THE TRAGEDY OF LEOPOLD III OF THE BELGIANS, 1901-1941. By Roger Keyes. David and Charles, 1985. 521 Pages. \$32.00.
THE ENIGMA WAR. By Jozef Garlinski. Scribner's, 1980. 219 Pages. \$14.95.

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I AM THE INFANTRY

EDITOR'S NOTE: The epic poem "I Am the Infantry" first appeared in the July 1956 issue of the Infantry School Quarterly, the forerunner of INFANTRY Magazine, pages 56-57. Since then it has been modified several times and is used in numerous ways at the Infantry Center and

School. It is printed on graduation programs, for example, and a dramatic taped version with life-sized figures of infantrymen over the years is presented. Here is the latest official version of the poem.

I am the Infantry - Queen of Battle! For two centuries I have kept our Nation safe, purchasing freedom with my blood. To tyrants, I am the day of reckoning; to the suppressed, the hope for the future. Where the fighting is thick, there am I...I am the Infantry! FOLLOW ME!

I was there from the beginning, meeting the enemy face to face, will to will. My bleeding feet stained the snow at Valley Forge; my frozen hands pulled Washington across the Delaware. At Yorktown, the sunlight glinted from the sword and I, begrimed and battered, saw a Nation born.

Hardship and glory I have known. At New Orleans, I fought beyond the hostile hour, showed the fury of my long rifle...and came of age. I am the Infantry!

Westward I pushed with wagon trains...moved an empire across the plains...extended freedom's borders and tamed the wild frontier. I am the Infantry! FOLLOW ME!

I was with Scott at Vera Cruz...hunted the guerrilla in the mountain passes...and sealed the high plateau. The fighting was done when I ended my march many miles from the old Alamo.

From Bull Run to Appomattox, I fought and bled. Both Blue and Grey were my colors then. Two masters I served and united them strong...proved that this nation could right a wrong...and long endure. I am the Infantry! FOLLOW ME!

I led the charge up San Juan Hill...scaled the walls of old Tientsin...and stalked the Moro in the steaming jungle still...always the vanguard. I am the Infantry!

At Chateau-Thierry, first over the top, then I stood like a rock on the Marne. It was I who cracked the Hindenburg Line...in the Argonne, I broke the Kaiser's spine...and didn't come back till it was "over, over there." I am the Infantry! FOLLOW ME!

A generation older at Bataan, I briefly bowed, but then I vowed to return. Assaulted the Afri-

can shore...learned my lesson the hard way in the desert sands...pressed my buttons into the beach at Anzio...and bounced into Rome with determination and resolve. I am the Infantry!

The English channel, stout beach defenses, and the hedgerows could not hold me...I broke out at Saint-Lo, unbent the Bulge...vaulted the Rhine...and swarmed the Heartland. Hitler's dream and the Third Reich were dead.

In the Pacific, from island to island I hopped...hit the beaches and chopped through swamp and jungle...I set the Rising Sun. I am the Infantry!

In Korea, I gathered my strength around Pusan...swept across the frozen Han...outflanked the Reds at Inchon...and marched to the Yalu. FOLLOW ME!

In Vietnam, while others turned aside, I fought the longest fight; from the Central Highlands to the South China Sea I patrolled the jungle, the paddies, and the sky in the bitter test that belonged to the Infantry. FOLLOW ME!

Around the world, I stand, ever forward. Over Lebanon's sands, my rifle steady aimed...and calm returned. At Berlin's gates, I scorned the Wall of Shame. I spanned the Caribbean in freedom's cause, answered humanity's call. I trod the streets of Santo Domingo to protect the innocent. In Grenada, I jumped at Salinas, and proclaimed freedom for all. Duty called, I answered. I am the Infantry! FOLLOW ME!

My bayonet...on the wings of power...keeps the peace worldwide. And despots, falsely garbed in freedom's mantle, falter...hide. My ally in the paddies and the forest...I teach, I aid, I lead. FOLLOW ME!

Where brave men fight...there fight I. In freedom's cause...I live, I die. From Concord Bridge to Heartbreak Ridge, from the Arctic to the Mekong to the Caribbean...the Queen of Battle!

Always ready...then, now and forever, I am the Infantry! FOLLOW ME!

INVOCATION TO THE INFANTRY

Long years ago,
Before man had learned to fly
Or even sail the Seas.
On the bloody field of man's first battle,
There was born the Infantry.

And once again
On the broad plain of Armageddon,
On the grand day of Rangarok,
When all the machines have died,
And naked steel and the human will
Will take the day,
There you will find the Infantry.
God bless the Infantry!
Queen of Battle!
Long may she reign!

*Sergeant First Class Kevin Burns
Company B, 5th Battalion, 16th Infantry
Fort Riley, Kansas*