

The FIELD ARTILLERY JOURNAL



SEPTEMBER 1946



Spearhead Artillery . . . page 502

By Col. Frederic J. Brown, FA

A STORY OF MENTAL ILLNESS IN THE ARMY WRITTEN BY A LAYMAN FOR THE LAYMAN



ALL BUT ME AND THEE

By BRIG. GEN. ELLIOT D. COOKE

Ordered by Gen. Marshall to investigate the psychiatric situation in our Army, General Cooke visited units all over the globe. All But Me and Thee is the information he obtained from his investigation. The last chapter of this book is General Cooke's Report to the Chief of Staff.

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THE FIELD ARTILLERY JOURNAL

Office of the Editor

MEMO TO: *Members*

Change of Address. Please note urgent plea in column to the left. Necessarily, JOURNAL envelopes carry the words, "Return Postage Guaranteed." Members would be surprised to know how much postage money our Association pays out each month for magazines returned as undeliverable. This cost can be eliminated by member cooperation.

Feminine Touch. Still hopeful, we search the mail bag daily for a manuscript penned by one of our artillery gals—mother, wife, daughter, or what-you-may-have. No jest is our contention that this JOURNAL might benefit by the feminine touch, from time to time.

Artillery Intelligence. Speaking of manuscripts, correspondence indicates a real interest in and desire for articles dealing with artillery intelligence. Hence, most favorably received was Colonel Hallock's "Target Getting" in the August issue. Additional intelligence manuscripts are welcome.

"B-Bag." Certain members have registered vigorous complaints of our institution of a Letters-to-the-Editor page, dubbing it a "b-bag" outlet for gripes, bouquets, and general blatherings unsuited to a professional journal of serious-minded artillerymen. No "b-bag" in purpose, the Letters page is a useful editorial vehicle—an outlet not (it is hoped) for blatherings but rather for helpful reader comment, clarification and constructive criticism. Such letters are warmly encouraged. Henceforth, gripes and bouquets will be minimized. A sprinkle of humorous and otherwise amusing letters may be included. Writer clearance is obtained prior to publishing a letter.



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Trademark of Tradition



From time to time our JOURNAL will reach back into the past and republish selected items. The little cut to the left will accompany such reprints. The following poem first appeared in a National Guard and Reserve class publication called *MijMij*, in 1935. It was published in our JOURNAL in the January-February issue, 1936, and is considered appropriate for September—the back-to-school month, all across the land.

THE INSTRUCTOR'S LAMENT

From the Block House, Signal Mountain,
Come straight down three zero mils,
And you see a small black object
In the shadow of the hill.

With that object as a reference,
Go three hundred ten mils right,
And you're on a lonely caisson
That is darned near out of sight.

Coming left about one zero,
At a range that's slightly less,
There's a scared jack rabbit running
For his home behind the crest.

Right a hundred, left nine zero,
Left three hundred ten mils more,
And you're on a small black object
That you looked at once before.

Do you see it, all you students?
Not identified, you say?
I'm so sorry, oh so sorry,
That's your target for today.

S. L. N.



Contemporary Foreign Governments

By

HERMAN BEUKEMA

Colonel, United States Army

WILLIAM M. GEER

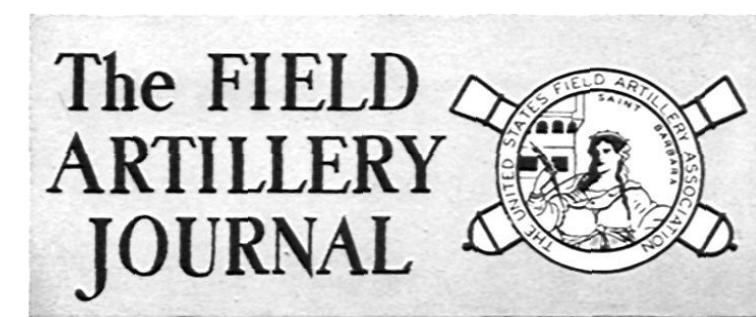
Major, United States Army

and ASSOCIATES

Department of Economics,
Government and History, United States
Military Academy

THIS important, timely study is a prerequisite to the full understanding of today's confused international scene. Only four years ago seven foreign nations could boast the classification of "great power." Today only the Soviet Union and the British Commonwealth retain this status. Here is unfolded the pattern of development which has brought these seven countries to their present political positions—as well as their historical origins, philosophical bases and constitutional structures. World stability efforts of recent years are particularly emphasized, from the Atlantic Charter to the United Nations Organization. *With maps and illustrations.* \$3.50

U. S. FIELD ARTILLERY ASS'N
1218 Connecticut Avenue
Washington 6, D. C.



VOL. 36

SEPTEMBER 1946

NO. 9

- Cover: A self-propelled 155mm gun spooks somewhere in France. Appropriate for September is this picture as well as the feature article, *Spearhead Artillery*. Two years ago this month Allied armies were hurtling eastward across western Europe—with armor in the vanguard—moving more troops and more military equipment over greater distances than had ever been done in all military history.
- Frontispiece: The Instructor's Lament—a poem introducing a new Journal policy of republishing, from time to time, items out of past issues with an accompanying *Trademark of Tradition cut*.

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The Field Artillery Journal is not a medium for the dissemination of War Department doctrine or administrative directives. Contributors alone are responsible for opinions expressed and conclusions reached in published articles. Consistent with the objects of our Association, however. The Field Artillery Journal seeks to provide a meeting ground for the free expression of artillery ideas in the changing present.

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Published monthly by The United States Field Artillery Association. Publication office: 3110 Elm Avenue, Baltimore, Md. Editorial and executive offices: 1218 Connecticut Avenue, Washington 6, D. C. Address all communications to the Washington office. Entered as second class matter August 20, 1929, at the post office at Baltimore, Md. Accepted for mailing at the special rate of postage provided in Soc. 1103. Act of October 3, 1917. Copyright, 1946, by The United States Field Artillery Association. Subscription rates: \$3.00 a year; foreign, \$3.50; single copies, 35 cents; additional single copies to subscribers, 25 cents. The Field Artillery Journal does not accept paid advertising. It does pay for original articles accepted, but unsolicited manuscripts must be accompanied by return postage if they are to be returned.

NATURE ABHORS A VACUUM

... If We Don't Act Somebody Else Will

By Walter H. B. Smith*

The United States is confronted with a hemispheric vacuum, the significance of which isn't sensed by the average American. Positive action to fill this vacuum can bring untold benefits—spiritual, economic, military and political—to us and to every neighbor in North and South America. *Inaction*—failure to move soon and positively—can result only in disruption to the basic principles we have pioneered and built up through the years. Inaction will contribute to anti-United States ideologies and policies throughout our sister republics to the south.

The *vacuum* is the need in Central and South America for essential military and police equipment, now that former European sources are no longer functioning.

As every schoolboy knows, nature abhors a vacuum. If we don't act, somebody else will. That "somebody else" is more than apt to be an ideology which to date has shown no recognition of bounds, no limits to expansion—of ideas, first, then physical control.

ALL-AMERICAN PLEA

This piece is not intended to be *anti* anybody or anything. It is *pro* American—openly, honestly and frankly *pro* American—and I mean *American*, not just "United States" American. It is a call for intelligent military cooperation between the American republics. Any interchange which will knit us more closely together is a step towards hemispheric solidarity, which is a step toward the ultimate goal of lasting world peace.

REALITIES

National controls rest, in the final analysis, on the police power. This power is enforced by means of the lesser weapons in the hands of either the established authorities or the revolutionaries who overthrow them.

Blessed are our people, in that our leadership has manifested an inviolate respect for our way of life and a fine restraint in the use of this awful power.

Millions have died in the recent years because of the dictators who could, and did, turn the rifles and machine

guns of the police and military authorities against the masses—first their own people, then their neighbors. Masters of the technique, the Nazis demonstrated time and again that he who furnished the enforcement equipment to a country could, if he acted ruthlessly enough, dominate the political leadership. The seeds of Hitlerism were sown deeper and closer to the United States than we now like to recall. And blind is the man who fails to see that the Russians have already demonstrated, in Europe and in Asia, that they too grasp fully and are quite ready to apply this principle—as ruthlessly as conditions require. This history of recent months provides examples enough for even the running man to read.

Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Paraguay, Peru, Uruguay, Venezuela—in 1935, all of these countries were listed by the then great German Waffenfabrik Mauser as being officially equipped with arms of Mauser manufacture or Mauser design. (See cut.) Not one used the standard U. S. service cartridge. As side issues they had machine guns from Austria, light machine guns from Denmark and Czechoslovakia, occasional arms from Italy, Spain and Sweden. None were chambered for the U. S. cartridge. Obviously, such a hodge-podge of types, varieties and calibers in all fields of ordnance would render defensive cooperation a nightmare of the worst order.

Where did this equipment come from? And where *can* the essential replacement requirements come from? The great Thuringian and Berlin areas of Germany had a tremendous capacity for Mauser rifles and for machine guns. It is now under definite Russian control. The scores of small and large gun factories in the Suhl, Germany, area equipped to manufacture Mauser rifles and machine guns—Sauer, Schilling, Schuler, Haenal, to mention but a few—are under Russian aegis.

A score of Austrian plants equipped to make arms of German—not Austrian—design and caliber are in the Russian zone above Vienna. The Polish Radom Arsenal, also a manufactory for Mauser rifles with which the Poles were equipped, is in Russian hands. And the gigantic Brno works in Czechoslovakia, manufacturers of some of the finest Mauser rifles and the best light machine guns ever built, lies close to, if not within, the Russian orbit. The best comparison one can make of this one Czech factory is to point out that it employed 20,000 workers before the War

*Lauded by the *Marine Corps Gazette* as "an amazing weapons man," Walter H. B. Smith served as consultant to the National Rifle Association during the war, and is the author of many weapons books as well as articles for the service journals.

whereas our own giant Winchester plant at its peak employed but 19,000 in all departments.

With the sole exception of the great Belgian "FN" plant at Liege (which under German license provided Mauser rifles to many of our neighbors) and the Oberndorf Mauser works now in French hands, no one but the Russians can fill the need for spare parts and replacements for the legitimate military and police needs of the South American authorities.

To put the matter quite bluntly, Russia is now in a position to take over the military, police and political contacts and connections formerly practically monopolized by Germany. If this is allowed to happen, if Russia operates captured plants or builds new ones to supply the military and police equipment of our neighbors, she will inevitably provide the instructors, the technicians—and the political ideologists—who will in time lead, if not actually dominate, much South American thinking. Within the month she has consummated a trade pact with German-armed Paraguay calling for admission of a Russian trade commission.

OPPORTUNITY KNOCKS

Our nation is overdue facing squarely up to the facts of life as we find them. Here are the facts of life as regards this vacuum:

Fact Number One: The present situation offers an opportunity the like of which we shall never see again. It offers the basis for an all-American solidarity in a field that is vital to the fruition of the Western way of life—a long step, in itself, toward world order and good will.



Fact Number Two: Russia will fill this vacuum if the United States defaults; she controls the means and has demonstrated the will.

Fact Number Three: We have large quantities of Springfields—Mauser type rifles, which are finer than any the Mauser Works itself ever made. We have ample facilities for making more, and for making replacement parts. Our artillery, radar and AA equipment is unsurpassed. We have ammunition types that have stood the bitterest of battle tests.

Fact Number Four: The job lies outside the capacity of private industry, which necessarily trades for profit and cannot compete with state-controlled exports. Germany perfected such techniques. Like tanks, these techniques can only be beaten with bigger and better techniques—a job for Uncle Sam, with the taxpayer footing the bill. If history is a guide, the insurance purchased will be cheap.

Fact Number Five: The alternative to positive action by the United States is to *open the door to the Russian way* in the Western Hemisphere. This fact overrides all others. *The Russian way is upside-down to the American way.*

SPEARHEAD

The Story of the 3rd Armored Division Artillery

By Col. Frederic J. Brown, FA

COLONL BROWN KNOWS ARMOR. He served with it from June 1941 to June 1945, and commanded the Artillery of the 3rd Armored Division throughout its entire period of combat in Europe. It is safe to say that Colonel Brown commanded as much, if not more, artillery during this period than any division artillery commander in Europe. During one stage (Marche-Hotton) of the decisive Battle of the Bulge, for example, he had nine battalions of artillery under his control. In this writer's view, it will remain one of the injustices of World War II that our veteran armored division artillery commanders were denied by an unrealistic T/O the rank of general officer so richly warranted by their combat responsibilities. Colonel Brown's Silver Star with OLC, Legion of Merit with OLC, Bronze Star, Air Medal, and foreign decorations testify to the quality of his ten months of battle leadership in the heaviest type of continuous combat.

Relatively unpublicized is the unequalled record of the 3rd Armored Division. It came of age in the bloody hedgerow fighting in Normandy in June, 1944. Thereafter, it saw heavy action almost without a break, spearheading the VII Corps. The Division was first into Belgium, first into and subsequently through the Siegfried Line, first to take a German town. It took more casualties than any other armored division, and, although not in the beach assault, its organic artillery battalions fired more 105mm ammunition (490,021 rounds) between D-Day in Normandy and VE-Day than any other division in the ETO. The trail of the Division's hurtling power is shown on pages 504-505. The men of the 3rd Armored can well defend their claim to being the *Spearhead in the West*.

Readers should note that, like the 2nd Armored Division the 3rd Armored Division was a so-called "heavy" division. These two divisions remained organized under the T/O & E dated 1 March 42—thus, they were authorized personnel and equipment exceeding that authorized the "light" armored divisions.

The 54th, 67th, and 391st Armored Field Artillery Battalions were organic to the 3rd Armored Division.—Editor.

THIS article is based on my experience as Division Artillery Commander of the Third Armored (Spearhead) Division in Europe. The division was in combat continuously over a period of ten months, and was assigned to First Army for the entire period. The division was attached to the VII Corps for nine months; the other divisions in this Corps also remained more or less permanently assigned for the same period. This fixed organization was of inestimable value to all in the Corps and permitted artillery coordination and cooperation of the highest order.

The Third Armored Division was a veteran division, tremendously proud, confident and competent. It participated in all types of operations except amphibious. It rang up many "firsts" and took many casualties. It was out in front most of the time, spearheading an aggressive corps and army. It repeatedly took the finest the Germans had.

TRAINING

The division was fortunate in being activated early and having the personnel frozen in the early stages of its training cycle. Thus, most of the division's training was performed with the same personnel. Branch jealousy was dispelled at the outset, and the division saw itself as one team long before entering action.

In retrospect, too much training time was wasted on high level lectures on subjects of a general nature and far too little attention paid to the basic schooling and indoctrination of the soldier. I believe that every soldier in ground forces should be trained initially as a combat infantryman and be so thoroughly

indoctrinated that, regardless of later branch assignment, he will always remain a combat infantryman *in addition* to his other duties. At any time he may be called upon to fight with any means at hand. It takes some bitter experiences for a division headquarters or a supply unit to realize that, upon occasion, they must fight as an infantry company.

It is an easy error to cut down the total strength of a division, by generalizing that this unit or that unit can be attached if needed. *Combat requirements should be organic*. The purpose of much of our training is to form the team that is to fight together and to indoctrinate them as a team in the common purpose and common sacrifice. I believe this to be particularly true of armored units due to the tempo and confusion of their action. Their success is dependent primarily upon team work, elan and esprit. For this reason, above all others, attached units can never equal organic units.

There is one more point on training which is applicable to all artillery—rotation of duties in training. Truthful is the axiom, "keep three deep in every job." Not only is this depth essential when the casualty rate goes up, but also the rotation of duties in combat produces new ideas, evens out arduous duties and casualty expectancy, and keeps the outfit from going stale or battle weary. Our soldiers are too intelligent and versatile to be held to a "one track" frame of mind. If you can rotate them in combat, you can rotate them in training.

DIVISION ARTILLERY

In the early development of the armored division and during the organization changes, I could see no essential difference between the role of artillery



ARTILLERY

in an armored division and in an infantry division. Combat experience merely strengthened this belief.

More of the Same. By the very nature of its supported unit, however, armored artillery must necessarily be faster, more aggressive in spirit, and *harder*. But these characteristics are in addition to, and not merely in lieu of, those traditional to the artillery of the infantry division. That it should not be expected to do what infantry division artillery does is unthinkable. Naturally equipment must be suitable to enable it to perform its role, but the composition of the organic artillery should conform to the same principles as the infantry division artillery. As each combat team requires a direct support battalion, so does each task force of an armored division. Infantry divisions require general support artillery and so do armored divisions—and in the same quantity. A fire direction center is equally important. The surprise and violence of armored action dictate maximum concentrated fire power, massed action and the continuity of action until resistance has been overcome. To accomplish this, massing of firepower is the most effective and flexible means in a commander's repertoire.

For an armored division of 15,000 to 18,000 strength, I believe that four direct support 105mm howitzer battalions and two general support 155mm howitzer battalions are necessary. A 155mm self-propelled gun battalion is acceptable as a substitute for the 155mm howitzers, but is not the equal of them. It goes without saying that all these weapons should be self-propelled.

I conceive the role of division artillery commander to be that of the director and coordinator of all available fire power at the disposal of the division commander, whether close support aircraft, artillery, guided missiles, rockets or whatever forms of fire power the division commander has at his disposal. One agency must be responsible for the clearance for fires, except local fires within the immediate zone of the combat

units. The division artillery commander's fire direction center is the logical agency to do these things, and the air direction center should be located there.

Flexibility and Confidence. The artillery must keep its technique so flexible that the combat team or combat command commander feels that he does not have one direct support battalion but all the fire power of the division as his direct support artillery. The control must be so flexible that each forward observer and each air observer feels that he has adequate fire power available for the accomplishment of his supported units mission and that it is at his fingertips. The fire power available to the division commander is little enough without having what there is compartmented within combat commands.

Combat commanders should be indoctrinated with the increased value of massed fires of the division rather than the feeling that each one must have some

element attached directly under his command. Each should be made to feel that he has all the fire power at his disposal when the circumstances require and in the meantime, such fire power as the division commander can spare from other missions.

It takes considerable experience and considerable casualties to really appreciate the value of surprise massed fires. If an objective is worth committing 45 tanks and 500 infantrymen to secure, it is surely worth all of the artillery within the division.

The division artillery commander's job is to give each combat team or task force the full weight of the artillery to accomplish its mission. This does not relieve the direct support battalion commanders in any way of their responsibility for the close liaison and cooperation with the supported unit. The direct support battalion commander is the king pin of artillery support and this teamwork is the very essence of this



"The Third Armored Division . . . was tremendously proud, confident and competent . . . rang up many *firsts* . . . was out in front most of the time . . . repeatedly took the finest the Germans had."

support. However, he must *know* that he has his full division artillery and not just his battalion backing him up, and that he has the complete confidence of the division artillery commander.

FIRING BATTERIES

The six-piece self-propelled howitzer batteries proved themselves in armored action in western Europe. Customarily, they occupied position areas in a hexagonal or circular formation, and required no larger areas than the four-piece batteries.

Self-reliance. The heavy armored divisions were authorized one ammunition half track and trailer for each piece. This permitted an essential rolling reserve of ammunition and also provided excellent perimeter defense for the battery position. With these half-tracks plus the antiaircraft protection

(usually two M16 self-propelled AA mounts) an armored firing battery could occupy and clear its own position area and was more or less impervious to any but major counterattacks. In several instances they fought off tank attacks as well as numerous attacks by dismounted troops without calling for assistance. This defensive ability is very necessary in an armored division offensive. Armored artillery must be able to displace through hostile territory, clear its own position areas, and be as aggressive as the tank and infantry elements. In several instances towed artillery was tried out as direct support artillery for

armored columns and was unsuccessful. The lack of self-reliance in artillery units is a serious handicap to an armored column.

Hang Together. Many close-support missions are fired at very short ranges due to the necessity of the firing battery remaining with or closing up to the forward elements. Naturally this requires a howitzer type weapon to clear masks in varied terrain. Also,

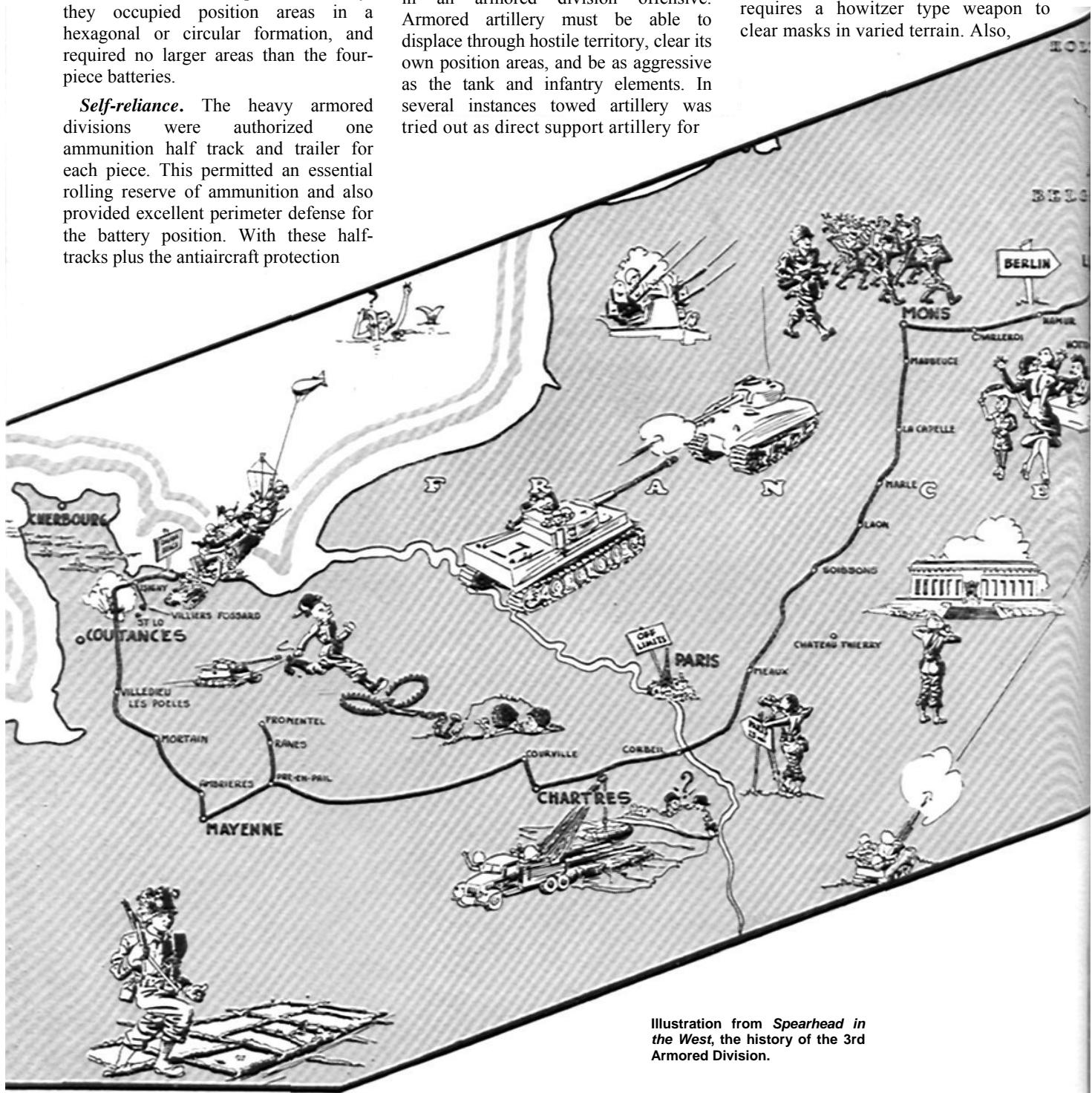
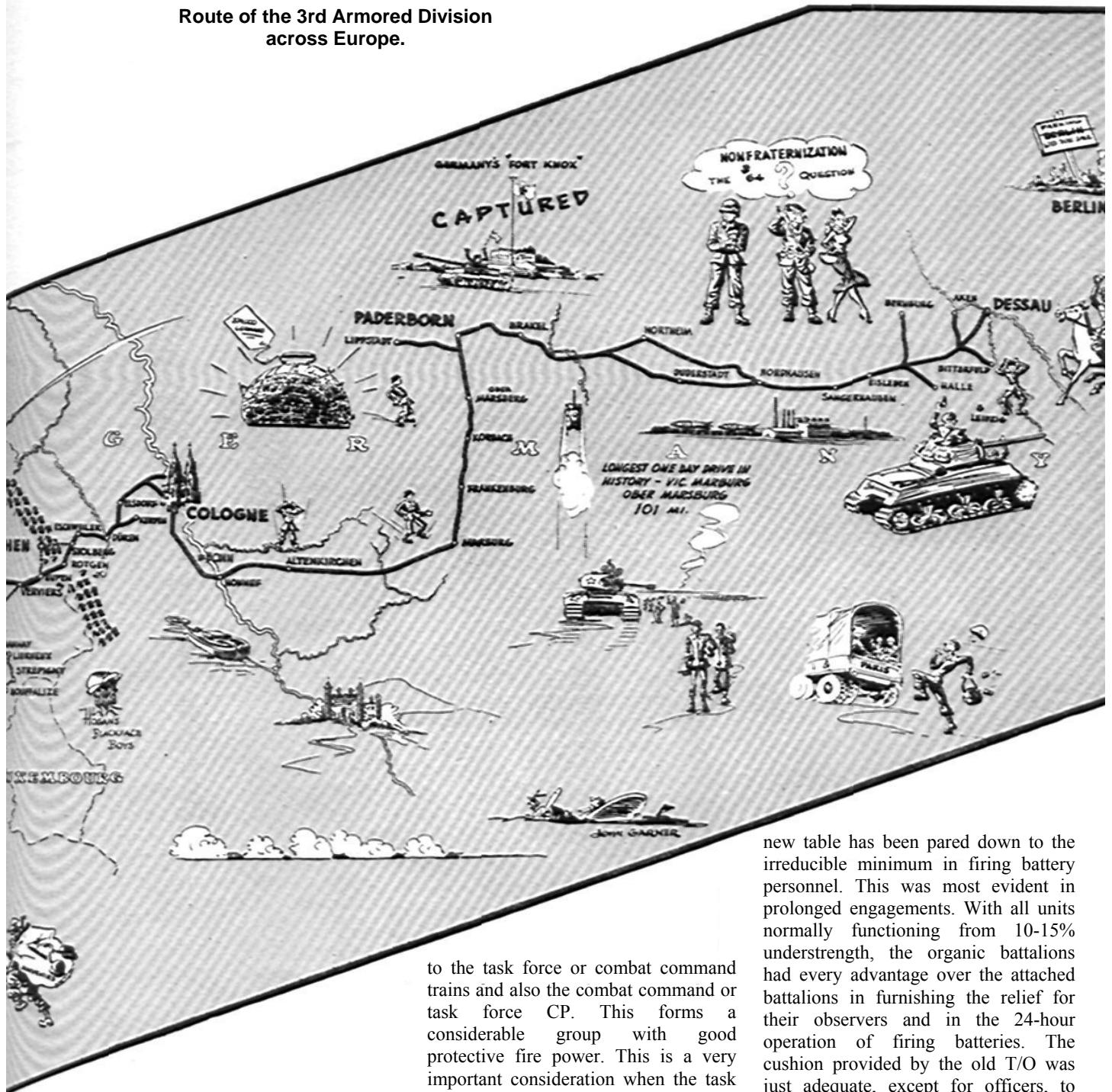


Illustration from *Spearhead in the West*, the history of the 3rd Armored Division.

**Route of the 3rd Armored Division
across Europe.**



self-propelled pieces are a necessity due to the large shifts at the short ranges. Shifts from 1600 to 3200 mils were routine, and there were many instances of three pieces of a battery firing to the front and the other three 3200 mils to the rear. (Readers who were there may question, and with good reason, my use of the terms "front" and "rear" in connection with armored action!) In a hotly contested engagement in which the battalion is in position in a relatively small area, its natural position is close

to the task force or combat command trains and also the combat command or task force CP. This forms a considerable group with good protective fire power. This is a very important consideration when the task forces are cut off, as they often are, two or three days at a time and all-around security is an ever present necessity.

Old vs. New. The three organic battalions of the division were organized on the old T/O, the heavy division type. The attached armored battalions (of which there was at least one, and many times two) were on the new T/O or light armored division type. This furnished an excellent opportunity to compare the two organizations. The

new table has been pared down to the irreducible minimum in firing battery personnel. This was most evident in prolonged engagements. With all units normally functioning from 10-15% understrength, the organic battalions had every advantage over the attached battalions in furnishing the relief for their observers and in the 24-hour operation of firing batteries. The cushion provided by the old T/O was just adequate, except for officers, to maintain an efficient combat unit.

The lack of an adequate T/O to provide 24-hour operation is nowhere as evident as in the firing batteries. It was very common practice for the firing batteries to fire as much or more at night than in the daytime. In breakthrough operations, it was normal for the batteries to displace and march all day long, and then to fire defensive, harassing, and interdiction fires all night long—and then to march again at first

light. Such anomalies occurred under the "pennywise" tables as having one man perform the duties of a truck driver and operator of a CW radio set. This simply will not work in combat and the T/O must be augmented by the battery commander in this case with a full time truck driver and a relief radio operator. But in a "pennywise" T/O the same is true of all positions in firing batteries, so where can the men come from? The same applies to officers. The assistant executive is as necessary as the executive officer. Improvisation works in 3-day maneuvers but breaks down after months of prolonged combat. The work of an armored artillery firing battery is very hard work indeed—plain, hard physical work twenty-four hours a day, usually operating within range of mortar and small arms.

The Spirit of Armor. It was common practice to provide relief crews for forward observer parties from the personnel of the firing battery including relief of the forward observer tank drivers by the drivers of the self-propelled pieces. This served to weld the whole battery and battalion into one fighting unit, all conscious of the common objective. It sharpened the firing battery discipline perceptibly. Mistakes were not infrequent, but could always be attributed to tired, over-worked men and the terrible stress of urgency; they could never be attributed to indifference, carelessness, or failure to realize the importance of each individual's effort in the common end. The firing discipline was superior. The firing battery was kept abreast of the minute-to-minute developments up front by means of the radio net. Knocking out a Mark V by indirect fire was just as real to those men in the battery position as if they had used a bazooka on that tank. A brisk small arms fight in the battery areas was an everyday occurrence, not an occasion for a medal formation.

The armored firing battery embodies the true spirit of armor—it has all the dash and fire of the old horse artillery combined with the self-reliance and aggressiveness so necessary to successful armored action. Close support becomes a very real thing indeed when all hands know that nothing — enemy

infantry, tanks or shell fire—can stop an armored artillery firing battery.

ORGANIZATION FOR COMBAT

The Third Armored Division's initial combat came in the action north of and preceding the historic breakthrough at St. Lo. Until the completion of the Battle of Mortain the combat commands were attached as spearheads to the infantry divisions. The remainder of the time in combat the division operated as a whole, either alone or with another armored division spearheading a corps. The normal battle formation was two combat commands abreast (each in two columns, or task forces) with a combat command in reserve. This formation is almost mandatory in a heavy armored division to insure rapid deployment and to shorten the columns so that follow-up troops are within supporting distance.

Column Support. Since the artillery organization must conform to the division formation, an artillery battalion was required in each column or task force. This is a *must*. The direct support of a task force by a battery, or from an adjacent column, was tried many times but never worked satisfactorily. A battery is simply inadequate, due to the necessity of frequent displacement and insufficient fire power. Similarly, a battalion cannot be depended upon to support a column other than the one with which it is marching, since its displacements must conform to the progress of the column.

Groupments. The two artillery battalions with a combat command were placed in a groupment under the command of the direct support battalion commander, regardless of seniority, who worked habitually with that combat command. The groupment commander furnished command liaison to the combat commander and was charged with the coordination and clearance of fires within the combat command zone of action. During heavy fighting and the initial stages of a breakthrough, a 155mm howitzer battalion was often added to the groupment to furnish general support for the two task forces. This medium battalion usually marched on the inner (safer) column of the combat command. Incidentally, the attached 155mm howitzer battalions were severely handicapped by the lack of armored

vehicles and self-propelled mounts. Towed artillery repeatedly proved itself very vulnerable to minor hostile action and demanded protection by supported troops that was not required by armored self-propelled artillery.

Range—Critical Factor. The 155mm SP gun battalion was normally in general support of the division, marching in one of the center columns of the division in front of the reserve. I cannot over-emphasize the utility and versatility of the self-propelled 155mm gun, thus employed. Due to the range and rapid shift, support of any column was possible even though the division was widely deployed in depth and width. It enabled immediate interdiction of approaching hostile columns detected by air reconnaissance, neutralization (prior to detection or arrival of the armored columns) of vital points such as bridge sites, defiles, and gaps in encirclements, and counterbattery when the situation was too fluid to permit close corps artillery follow-up.

In every instance the long range was the appreciated characteristic rather than the trajectory or ease of selection of the position area. In addition to the 155mm howitzer battalions in the groupments, in several instances when the fighting was heavy a group with the group headquarters was used in general support of the division. Here, too, range and counterbattery ability were prime requisites, since the ratio of battalions in the group was usually two 155mm guns to one 155mm (or preferably one 8") howitzer.

Division Artillery Control. The battalions, groupments or group were in direct or general support at all times rather than attached, and were under division artillery control. The direct support commanders were given much latitude on displacements, quantity of fire and clearance to fire in their assigned zones. They also established the combat command no-fire-lines. Even during the wildest pursuits the establishment of no-fire-lines and clearances of fire were rigidly enforced. During fluid situations the principal duty of the division artillery fire direction center was the clearance and coordination of fires.

No Small Task. Keeping track of all elements of a rapidly moving reinforced heavy armored division is

no small task. All of the technique and functions of an infantry division artillery fire direction center were maintained on the move by a mobile armored fire direction center and by radio communication. The one consideration of location, overriding all others including command post security, was good radio communication with all elements. Our command post was seldom near the division command post. Command liaison with the division commander was maintained by the division artillery commander and with the division command post by the division antitank officer—an amusing TO position, incidentally, in an armored division. Clearances for close support bombing missions were obtained through division artillery fire direction center. Although the air support was excellent, the coordination and speed of delivery could have been improved had there been an air direction center working in close conjunction with the division artillery fire direction center.

Backing Superb. At this time I want to pay tribute to Brig. Gen. Williston B. Palmer, Corps Artillery Commander of the VII Corps. In every operation the corps artillery support was superb.* Anything asked was given regardless of whether it was fire support, attached battalions, or corps artillery in direct support. The type and quantity of artillery support was tailored to the need, if it was available in the VII Corps or in First Army. Hence the problems of division artillery organization for combat were those of balancing requirements and available road space, but not availability. In my opinion the flexibility of General Palmer's organization and his instant grasp of the progress of battle played a very material part in the consistent success of all VII Corps operations.

OBSERVATION

On the Ground

Never Enough. The bulk of the observation was by means of the forward observer and the Air OP, or a combination of the two. I believe that providing an adequate number of forward observers was the most constant

problem that faced us. Although we operated under T/Os which provided three battalion forward observers in addition to the battery reconnaissance officers and a theater allowance of an additional observer per battery, there were never enough forward observers. Provision must be made for a forward observer in each combat company, regardless of whether it be infantry, tank, or reconnaissance. There must be a liaison officer provided for each combat infantry, tank and reconnaissance battalion. Also, there must be sufficient observers available to provide relief and replacement within the battalion.

Share the Load. Every battery grade officer, except battery executives, was subject to his tour of duty as a forward observer or liaison officer. In spite of this rotation policy, there were never sufficient officers available to provide relief for the observers after their three or four days of action, which is the desirable maximum. The same relief policy should apply to the enlisted personnel of the forward observer parties. Although we did our best to provide an observer for each combat company, this was impossible. But at least two observers were always provided per combat battalion.

Same Unit. Every attempt was made to keep the observers and liaison officers with the same units, except for relief or rotation, to insure better liaison and closer cooperation. The Division Commander very wisely required the observers to be with a unit, whether in reserve or in combat. This not only insured some rest (since the observers came out of line with their task force) but also guaranteed that artillery observers would be present when any unit was either attacked or committed on short notice.

However, this policy brought up many problems, ideal solutions for some of which were never found. For example, the composition of the combat commands varied from time to time due to the change of proportion of armor to infantry and to the rotation of depleted units. This resulted in liaison officers and forward observers working with battalions other than their own. In fact, after several weeks of continuous action the observers and liaison officers were pretty well scrambled within the division. No difficulty was experienced in obtaining

prompt fires but great difficulties were experienced in getting proper relief and replacement of these officers under such circumstances and in the resupply of their sections. Since this flexibility of observers and liaison officers must be maintained, I believe that special observer equipment (tanks, armored cars, etc.) should be included in the T/E of the supported unit, which should be responsible not only for its replacement but also for the supply of gasoline, oil, radio, rations, batteries, and other such supplies. In the later stages of combat this principle was voluntarily accepted by the supported units, to the great simplification of our supply problems. However, we never evolved an adequate solution to the problem of prompt relief and replacement of observers and liaison officers when working with artillery battalions other than their own.

No Substitute for Experience. The forward observers and the liaison officer worked as a team under the direct supervision of the liaison officer. Only experience and situations dictate where an observer should be, and it took considerable time to learn how to use them. Too often the inexperienced company commander placed his forward observer on an outpost or road block where he was hit by the first burst of automatic fire. Also, green forward observers sometimes construed their mission as that of a liaison officer or a company commander rather than the individual who actually adjusted fire. Being in contact with the company commanders, either on the ground or through the supported battalion commander, the liaison officer was invaluable in correcting such errors.

The utility of a forward observer in the lead tank is short lived. Short lived also is the utility of the lead tank if the observer rides in the tail tank. Unfortunately, only experience can develop an aggressive, canny forward observer, and a fine shot—always at the right spot, always anticipating the next move, and always keeping the fire direction center busy. Incidentally, forward observers should have the same type tank with the same gun, the same radio equipment and the same special equipment as the unit they are supporting.

In the Air

"Naturals." Air observers were less

*See page 525.—Ed

of a problem. They suffered few casualties and required less relief. Eventually each battalion discovered "naturals" at air observation, who remained on this assignment more or less permanently. Due to the scarcity of officers, non-commissioned forward observers were frequently used and they proved to be excellent air observers.

Up at All Times. Air OP pilots and planes were a different story. Whereas four hours a day is about the limit of flying time that could be required of any pilot without causing undue pilot fatigue and excessive attrition of planes, the long periods of daylight of the spring and summer in Western Europe necessitated from 12 to 16 hours of flying a day. Under these conditions three pilots per battalion are necessary, and four are desirable. To meet our pressing needs in rapidly moving situations, the organic planes were supplemented by planes and pilots from corps artillery units.

In stabilized situations, the planes were normally pooled under division artillery control, insuring economy of personnel. But in typical armored action, it is necessary for each task force to have a plane up at all times. Therefore, control

of planes was released to battalion commanders and the division artillery field was used merely as a safe haven if the direct support battalion commanders were not able to establish an airfield of their own by nightfall. May I observe, here and now, that the observers, liaison officers, and pilots were indeed the *fighting* artillerymen of this war. They did a truly magnificent job.

GUNNERY

Maps were available in sufficient quantities but not always in the scale desired. The 1:100,000 map was always available. The 1:25,000 and vertical air photos were very desirable for the slower fighting, but the 1:50,000 was the best scale for all-around use. The problem of map stowage on long drives was very difficult for the observers, particularly the tanks. Gridded oblique photos were very convenient but difficult to provide in sufficient depth for armored action.

Fire planning and the use of prearranged fires were standard procedures. The supported units were briefed and furnished overlays even in fluid situations. Defensive fires were planned for each objective and verified by firing as soon as the objective was

reached. The most important ritual of the day was the firing in of defensive fires. Time after time this kept us on objectives. The supported troops were keenly insistent on the perfection of fire planning.

When advancing in column, the advance guard battery was accompanied by the battalion survey officer, battalion reconnaissance officer, and a small advance element of the fire direction center. Upon going into action, positions were selected for the remainder of the battalion, a rapid position area survey was run, a battalion base point selected and located by a rapid survey, if necessary, and a fire direction center established with data plotted and capable of immediate operation. Hence the other batteries could roll right into position and shoot. Each battery registered as soon as an interval in firing allowed. This procedure was repeated several times a day, day after day. In the last position of the day, every attempt was made to get a metro message and establish a metro K for night firing.

Even after a large quantity of proximity fuzed ammunition had been fired, there was still a decided preference for time fire when it could be adjusted and when the target was not close to our forward elements. The air observers wanted to stay close to the target—just out of small arms range. Naturally they preferred time to proximity fuzes, and it was used extensively in such cases. Incidentally, time fire over "buttoned up" tanks was our answer to the Panzer-faust teams in the foxholes.

COMMUNICATIONS

Radio was the normal and wire the supplementary means of communication. Full wire nets and wire-laying equipment normal to an infantry division artillery were necessary during stabilized or slow-moving situations. In moving situations, however, complete dependence was placed on radio, with very successful results. This was due to the excellence of the equipment, the number of channels available, and the proficiency of all personnel in radio operation which combined to give flexibility and reliability of communication.

On the other hand, radio maintenance is a very serious problem and requires not only skilled personnel but a large



"I cannot over-emphasize the utility and versatility of the self-propelled 155mm gun. Properly employed with armor." Above, an M12 in action somewhere in Belgium. Of particular interest—the smoke ring and the pose of the gunner in the foreground. More artillerymen would be less deaf if they'd take a lesson from this young veteran.



"Firing batteries fired as much or more at night as in the daytime. In breakthrough operations, it was normal for the batteries to displace and march all day long, and then to fire defensive, harassing and interdiction fires all night long—and then to march again at first light."

supply of spare sets and parts. I believe this is due to the rough usage, vibration in the tank sets, and constant road travel rather than to inherent defects in the sets. Whereas the nature of the repairs varied greatly, the most consistent troubles were broken tubes and crystals due to blast of incoming shells.

From the division artillery point of view the defect in the tables of equipment for radio equipment, as provided in Europe, was the inadequacy of numbers and power of radios for the division artillery headquarters. Radio communication with the corps artillery fire direction center was never satisfactory, nor was the communication with the liaison officers at adjacent divisions. But these and our other radio difficulties should be readily surmountable. In fact, I am of the opinion that we should anticipate eliminating wire communication entirely from armored division artillery, with the advent of built-in security devices.

AMMUNITION

It is essential that armored artillery have a rolling reserve of ammunition in battery positions. Faced always with the possibility of being cut off for two or three days from re-supply, two or three units of fire should be available. This may sound like a generous estimate and unnecessary in case of breakthroughs and encirclements, but in such cases gaps or traps are formed and every attempt is made by enemy forces to break out, withdraw or disengage at night. Heavy night fires are therefore necessary. In the Falaise Gap, by corps order, the division artillery fired 100

rounds per gun per night for four successive nights, to deny exit from the gap which the ground forces were trying so hard to close. The vivid accounts of prisoners and the numerous fires observed at night along the interdicted routes testify to the usefulness of such firing.

Expect Long Hauls. An ample battalion ammunition section is also a must in armored action. It will always be impossible to push ammunition far enough forward, in offensive operations, appreciably to shorten the inevitable long hauls for the breakthrough troops. The battles of Mortain and Falaise Gap were fought, for example, with ammunition hauled directly from the beach, and in the final operation on the Elbe River, much ammunition was hauled by organic transportation from the west bank of the Rhine. To insure the supply, this transportation must be organic. The addition of a stray truck company at the last moment is risky business. The accomplishments of our battalion ammunition sections frequently astounded me, especially when they managed to find and deliver ammunition, when the battalion had moved as much as fifty miles since last seen by them and was, sometimes, cut off. In the Ruhr encirclement an assistant supply officer and ammunition sergeant of one battalion were killed fighting their way through with general purpose vehicles loaded with gasoline and ammunition.

The armored artillery organized under the new tables and the towed battalions usually had to be augmented by trucks taken from other units in the division,

often cutting down their own possibilities of ammunition re-supply—another example of the "pennywise" T/O. The half-track, of course, is not suitable for the long haul. We tried unsuccessfully to get ours replaced by 2½-ton trucks.

Ammunition supply at gun positions was never adequate. For example, although the overall theater ammunition picture may have been very rosy on V-E Day, on the last day the division was engaged on the Elbe River one battalion was down to 10 rounds per gun in the position area, and all battalions had been on a very short supply for the preceding week.

Miscellaneous Problems. The supply of white phosphorus was always short, and we never had enough to exploit its possibilities. On many occasions one-third of all ammunition fired could very profitably have been white phosphorus.

We also felt a definite need for a true incendiary or inflammable shell.

Lot variation and the general quality of the ammunition improved greatly during the course of the war, although it never reached a satisfactory standard. Occasionally there would be one lot of ammunition available for very close support fire.

A satisfactory solution was never found for the smoke shell problem. We could not afford to load down the ammunition train with a shell that was of no value for other than screening purposes. Aggravating, from a supply viewpoint, was the fact that when screening smoke was needed, it was needed in large quantities and usually on very

little notice. Also at times a large supply of colored smoke was necessary for target identification to close support aircraft. To carry the requisite number of the various types was obviously an impossibility. A possible solution is to develop a standard base ejection or nose-ejection shell case which can be loaded in the battery position with the color desired whether it be incendiary or colored smoke, together with the appropriate fuze.

Many problems of ammunition handling are aggravated by the very nature of armored action — that is, frequent displacement and large expenditures in a short period of time. For example, every effort was made to carry the ammunition in the cardboard containers as long as possible to prevent damage to the case, but there is the difficulty of opening the standard carton or sorting out the various types in the carriage for rapid and heavy expenditures. Darkness adds to the difficulty and confusion. In the armored artillery no provision can be made for neatly laid out gun emplacements with ready racks and ammunition storage pits. For these reasons every care must be given to the design of carriage and improved facilities for the members of the gun section and for ammunition storage.

A durable accurate fast fuze setter should be built into the carriage. Powder loaders and scavengers should be developed for separate loading types on self-propelled mounts. The accuracy of the 105mm could be materially improved. However, the fragmentation of the present HE shell is ideal for close support missions. Any added range without sacrifice of desirable characteristics would certainly be welcomed.

MORALE AND WILL TO FIGHT

Morale and the will to fight are vital to any combat unit.

Seeking increased efficiency and flexibility, we artillerymen have adopted the separate battalion organization. The results were outstanding, but the costs were appreciable: in part, at least, we paid in the coin of morale, particularly in corps and army artillery units.

It is almost impossible to build pride of unit in a battalion with an astronomical number, one of hundreds in a theater where accomplishments are publicized in

terms of the armies, corps and—to a lesser extent—the divisions. Divisional artillery had a much simpler problem since the battalions very properly identified themselves with their supported unit, and of course the division. The division patch was the pride of all.

Pride of unit is a powerful but an intangible thing. There was at once personal honor at stake and blood-in-the-eye—even to a replacement in an ammunition train—if an outsider ever suggested that anything could stop "Old Spearhead." Likewise, it was all your life was worth to tell a Seventh Field Artilleryman that the Sixteenth Infantry wasn't the finest infantry regiment in the Army.

To my mind, *pride of unit* is the most cogent reason for an artillery division organization for corps and army artillery units, with battalions permanently assigned, and a commander who trains and fights his division. Just the minor matter of allowing corps artillery units to wear a corps shoulder patch effected a noticeable improvement of morale. Had I been able to hand our division's patch to the attached units, they would have been mine. Little wonder that some units were below standard in morale; they were kicked around from corps to corps and from army to army; little wonder such units were oftentimes slow on TOT's.

We of the armor had an advantage in maintaining high standards due to the spectacular nature of our role and the fire and dash of armored action. The men saw themselves as physically fighting and winning and thereby gained a will to fight. By personal experience and intuition they came gradually to realize the importance of the individual to the team, and of the vital importance of maintaining the initiative. Lulls in action irritated them. "Let's get going" . . . "Let's get the war over" . . . "Keep rolling" . . . "If we stop tonight, there'll be more out there in the morning"—these were common cries. This inward drive of the individual together with an earned sense of battlefield superiority, camaraderie, and the fear of letting the outfit down, are the things that make the will to fight.

We have a glorious tradition in the Artillery, the tradition of Knox, Pelham, and Reilly, the tradition of the horse artillery, and now the tradition of

the armored artillery. It is a thing we must nourish and strengthen—that willingness to fight it out, whether it's with rammer staffs or direct fire from Long Toms. Our doctrine must reflect it; we must have aggressive doctrine, more close support, more use of direct and assault fire. We must talk less of "a battery seen is a battery lost" and more of "the first round off wins the fight." We must not bury ourselves in a rear echelon attitude and consider that it is the infantry's job to win a battle, that a SWIA is a major catastrophe, and that one only displaces after solemn assurances that it's safe.

Once you have the morale and will to fight, all other problems are simple. Individual training, team training, coordination of the teams, supply, indoctrination of the replacement — these things then all fall quickly into their proper perspective.

Upon induction, the individual should be trained as a *fighting* soldier, and told that he will personally engage the enemy, and that his life will depend upon his courage, skill and intelligence. He should be taught to fight as a member of a small team, thus giving him proper orientation on individual and team effort, leadership and discipline. Make him a soldier first, then classify him and make branch assignments.

Another fundamental that must be revitalized is the care of the individual's weapon—its care and preservation is a matter of his preservation and comes before his care. Wrong is the soldier who thinks that we have outgrown the tradition of keeping the powder dry, of sleeping on the rifle to protect it, of caring for the horse or the gun or the battery before either the individual cannoneer or the battery commander. These things are as old as war, but it seems that each generation must learn them the hard way. They are fundamental to soldiering, and—notwithstanding MTP, MOS, global warfare and atomic something-or-others—we artillerymen must keep our feet on the ground. In our best tradition, we must turn out proud, tough, aggressive outfits of fighting soldiers, equipped with the latest developments and competent to use them, whatever trend they may take.



PERIMETERS in PARAGRAPHS



By Col. Conrad H. Lanza, FA, Ret.

PATTERN FOR PEACE, OR WAR?

GENERAL SITUATION

WORLD WAR I was advertised as the war to end war. It was *The World War*, and many believed that it was to be the last great war. The high water mark of this theory came perhaps in 1928, when 57 nations renounced war as an instrument of policy in the Pact of Paris, commonly known as the Briand-Kellogg Pact. The United States took a leading part in bringing about this Pact.

Following World War II, by contrast, there is wide belief that it was not the last great war. There may well be another one, and it is recognized that World War III would be a terrible war.

Steps to Security. Thus the United States had desired to establish bases in Iceland, and is organizing China—or attempting to do so—into a barrier state against Russia. Russia succeeded in preventing concessions in Iceland to the United States for bases. She has not tried to interfere with American penetration into China, being aware of her inability to do anything effective. Her controlled press has made it clear, however, that Russia resents the American policy in China.

Russia is consolidating her position in central Europe and the Balkans through the organization of satellite states, and the Western Powers resent that. Russia has sought to advance into the Mediterranean area and in Iran.

None of the Big Powers wants war. Nevertheless extensive preparations are under way against the evil day. Air, ground and naval forces are being increased to as far above previous peace standards as budgets permit. Advance bases are being established,

and spheres of influence and satellite states are being organized by all Powers to further their chances of winning World War III. In so doing, their interests clash and make possible incidents, some of which are explosively dangerous. Hope remains that if World War III can be postponed for a considerable time, some way may be found to maintain the peace for a long period.

Power Politics. With that idea in mind, the Big Four Powers have held a series of conferences. At the Paris Conference (15 June-13 July) only Foreign Ministers had a voice. Each had been coached by the military advisers of his country; thus, each knew what he wanted, and what he could safely concede to a possible future opponent. Each had information regarding what his own country's Intelligence Service knew about the other Powers, including how ready they

were to go to war. As a result each Foreign Minister had certain points about which he would not compromise. The Conference was not a military one, but it was dominated by the military situation.

Decisions of Note. The Paris Conference did not resolve all international problems. As the Big Powers were sincerely desirous about keeping the peace for the present, what was not decided was postponed for future discussion. Some decisions were made.

The disposition of the Italian colonies was put over for not more than one year hence. Russia had asked that Libya be assigned to her, together with a base in Eritrea. The British object to this, since their present hold over the Italian colonies gives them control of the Mediterranean and Red Seas. The British will not surrender that military advantage. The solution for which the British appear to be working is to have the former Italian colonies recognized as separate independent countries, similar to Trans-Jordan, Iraq, Syria and Lebanon which are British satellites in effect.

The Dodecanese Islands were awarded to Greece, to whom they have never previously belonged. As Greece is occupied by British troops, control of the Dodecanese will remain with the British. For protection against Russia, it is probable that Greece will desire to have British forces cover her frontiers.

Trieste and adjacent territory is to be erected into a *free territory*. For 550

I do not know of any publication where people can obtain such farsighted and accurate reporting of the world situation as Colonel Lanza's monthly feature. In my opinion, his Perimeters alone are worth more than the subscription price. — LT. GEN.
RAYMOND S. McLAIN, USA

* * * *

Being a continuing feature. *Perimeters in Paragraphs* is normally placed deep in our JOURNAL—a position that should not be construed in any way as a measure of its consistently high quality and its value to Artillerymen who seek an understanding of the continuously boiling undercurrents in a power-conscious world.—Editor.

(Continued on page 541)



STORY OF A MEDAL

*A Human Interest Story Lies Behind
the Annual Awards to Outstanding
Cadets of ROTC Units*

CADET WILLIAM L. SCHLANGEN of Springfield, Illinois, was awarded the Field Artillery Association Medal on 14 June 1946. As the outstanding Senior ROTC student at Culver Military Academy. Presentation of the award was made by General Jacob L. Devers, Commanding General, Army Ground Forces, who spoke at the graduation exercises. The cut, below, shows Cadet Schlangen, General Devers, and Colonel W. E. Gregory, Superintendent of the Academy. Not shown is Colonel C. S. Berries, FA., PMS&T at the Academy.

A second classman at Culver, Cadet Schlangen has been named captain of the Culver Battery for the year 1946-47. He has been associated with all phases of cadet activity in academics, ROTC training and athletics. He played regularly at right tackle on the varsity football team, which won the Midwest championship in 1945, and was also a member of the swimming team and the varsity crew.

Culver Military Academy had an impressive service record, both in World War I and II. More than 6,000 former cadets rendered distinguished service in the armed forces, with more than fifty percent serving as commissioned officers.

Our Association has resumed the pre-World War II custom of making available from Association funds a suitable medal for award each year to the outstanding cadet in each senior ROTC unit in the United States. Medal winners are selected by the PMS&T. The medal is a bronze replica of the Association seal, which was taken from the Palma Vecchio portrait of Saint Barbara, patroness of artillery.

Well known to older members, the story behind this Association custom is one of warm human interest—a story that younger artillerymen, and particularly the medal winners themselves, should know and cherish. Though young in memory, it will remain a choice bit in the unequalled tradition of our great arm.

Early in March, 1935, Major General Upton Birnie, Jr., then Chief of Field Artillery, received a letter from Leroy Johnson, 13-year-old son of a South Dakota farmer. Leroy and his 11-year-old brother, Roger, wanted "to help our Dad do some farm work" but the family

CADET FIRST LIEUTENANT RAYMOND W. Dykaar, of New York City, was awarded the Field Artillery Association Medal on 13 June 1946, as the outstanding Senior ROTC student at Cornell University. Presentation of the award was made by President Edmund Ezra Day of Cornell University at the annual review of the Cornell ROTC unit. Colonel Ralph Hospital, FA, is PMS&T at Cornell University.

A student at Cornell in 1942. Cadet Dykaar entered the Army in the spring of 1943. Trained initially as a laboratory technician in the Medical Corps. Dykaar landed in Normandy on D plus 6 with the 10th Medical Laboratory attached to First Army Headquarters. In November, 1944, he was transferred to the 4th Infantry Division, as a rifle platoon aid man, joining the Division during the bitter fighting in the Hurtgen Forest. He remained with it until the end of the war, and returned to Cornell University a year ago. Cadet Dykaar was awarded the Bronze Star Medal and Purple Heart with Oak Leaf Cluster for meritorious service and wounds received in action. He also earned the Good Conduct Medal, and wears five stars on his ETO ribbon for campaigns engaged in.



could not afford to buy a team of horses. Did the Army have an old team of artillery horses it could give away? (See cut of Leroy Johnson's letter.)

Struck by the young man's sincerity and faith, General Birnie realized that it was up to the Field Artillery to produce—regulations or no regulations—but he gave no hint of his intentions in this splendid reply to Leroy's plea:

WAR DEPARTMENT
OFFICE OF CHIEF OF FIELD ARTILLERY
Washington, D. C.

March 6, 1935

Master Leroy Johnson
R.F.D. No. 1
Volin, South Dakota

Dear Leroy:

If I had it in my power I would be mighty happy to give you a pair of artillery horses from those that are too old for further service in the Army.

I believe also if artillery horses could read letters and could talk, all those that have grown too old for further duty in their country's service would be asking me for the privilege of working for you and Roger. They would be happy to serve you as faithfully as their age and strength permitted in return for the good home and the kindness I know you two would give them.

Unfortunately, however, the Government requires that these devoted and loyal old veterans of the Artillery be sold, and for that reason none can be given to you.

I believe that if I were your dad, and had a couple of youngsters like you and Roger to help me, I would feel that somehow and in some way, the three of us working together would eventually lift that mortgage.

May you, and may many, many others like you, throughout the length and breadth of our country today, continue to bring help, and hope and encouragement to our American dads.

With very best wishes, believe me

Sincerely yours,

(Signed) U. BIRNIE, JR.
U. Birnie, Jr.
Major General, U. S. Army
Chief of Field Artillery

*John S. Dak.
Mar 1st 1935*

U.S. War Dept (Artillery)

Dear Sirs, I am writing to you to see if you might have an old team of artillery horses, that are to old to be of any use, that you could give away, - You see my Dad has a farm here of 300 acres, with a big mortgage on, and we are farming this with a foreman, and have only one team of old mares, one grey and one black.

I am 13 yrs this coming June and my brother Roger will be 11 this spring and us boys would like to help our Dad do some farm work this year, We have about 40 head of cattle and some pigs and sheep,

My Dad says he can not afford to buy any horses so I thought I would try and see if I could not help him some way,

Now we live 13 miles north east of Yankton S.D. and if we could get any horse in eastern S.D. or western Iowa maybe we could get some one to bring them here in a truck.

We will have about 150 acres to plow this spring and will have about 90 acres in small grain

Hoping to hear from you

Fromm your truly

Leroy Johnson

Volin S.D.

RECD MAR 4 1935 O.C.E.

Charley J. Johnson

With funds advanced by the Field Artillery Association, arrangements were made at Fort Sheridan for the purchase of an artillery pair whose duty days were over. On the afternoon of the sale, an Army truck rolled off the post with the team aboard. Needless to remark, astonishment and great joy reigned at the Johnson farm when the team was turned over to Leroy.

The then Secretary of our Association, the late Colonel Dean Hudnutt, wrote to all artillery commanders in the Regular Army and asked for a donation of three cents per officer and man for the purchase of the team. So great was the response that over \$200 remained, over and above the cost of the team and a set of harness.

Obviously impracticable to return the extra money, the Executive Council

determined that it should be used to strike the Association medal and to institute the annual awards.

The JOURNAL staff was unable to reach Leroy Johnson by letter to determine—for artillerymen's interest—his present whereabouts and circumstances. Now a man, full grown, it is hoped that the difficult intervening years have dealt kindly with him. It is certainly appropriate, however, for our JOURNAL to take this opportunity to salute General Birnie—in Washington and in good health in his 70th year—for his warmhearted understanding of young Leroy's faith. Ours would be a happier world if more such warmhearted faith and understanding were evidenced in men's day-to-day dealings together.

THE FIELD ARTILLERY JOURNAL

A LEFT-OVER ARMY?



PUBLISHED MONTHLY BY THE UNITED STATES FIELD ARTILLERY ASSOCIATION WHICH WAS FOUNDED IN 1910 WITH THE FOLLOWING OBJECTS — AS WORTHY NOW AS THEN

The objects of the Association shall be the promotion of the efficiency of the Field Artillery by maintaining its best traditions; the publishing of a Journal for disseminating professional knowledge and furnishing information as to the field artillery's progress, development and best use in campaign; to cultivate, with the other arms, a common understanding of the powers and limitations of each; to foster a feeling of interdependence among the different arms and of hearty cooperation by all; and to promote understanding between the regular and militia forces by a closer bond; all of which objects are worthy and contribute to the good of our country.

The



UNITED STATES FIELD ARTILLERY ASSOCIATION

Organized June 7, 1910

Honorary President

HARRY S. TRUMAN

President of the United States

LIEUTENANT GENERAL RAYMOND S. McLAIN, President
MAJOR GENERAL CLIFT ANDRUS, Vice-President COLONEL
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LAST MONTH THIS PAGE DISCUSSED A question of vital interest to ground soldiers: "What is going to happen to the Army Ground Forces?" Skipping rapidly over many complicating factors, that editorial concluded as follows:

".... the answer can only be right, if we have articulate and high-spirited Infantrymen, Artillerymen, and Armored Cavalrymen—justly proud, as individuals, of the essential functions of their great arms, but more proud and more aggressively cohesive, as individuals, in their over-riding role as ground soldiers."

The analytical mind will note at once that this "answer" actually sets up an idea conflict within itself—that is, essential functions vis-a-vis an over-riding role. Can you override an essential? Editorially, I have found this idea conflict

a tough nut to crack, and have been hard put to it over the months to remain within the bounds of consistency.

ESSENTIAL FUNCTIONS

Acutely aware of the essentiality of the artillery function—a function that is certain to expand outward and upward in any future war—I have plugged for a greater integration of artillery guidance, and have opposed in intellectual honesty the concept of a "branchless" Army, deeming it inconsistent not only with our own war experience but also with the experience of the Russians and the British.

In stressing these things, I have tried to avoid any odious display of branch consciousness. The functions of all arms and services are essential; otherwise we wouldn't have them. Being but one part among many, our purely artillery needs are relatively unimportant compared to the needs of the Army as a whole.

OVER-RIDING ROLE

The guiding pattern of our Armed Forces will be lacking in its specifics until the next Congress speaks, but the general shape can be seen in advance. And either naive or stupid is the ground soldier, regardless of arm or service, who fails to recognize the over-riding importance of current evolutions. The innumerable whys and wherefores behind these developments are outside this discussion, but the following is my blunt and candid estimate of the rough shape of things-to-be.

First: Peace of a sort is here. In peacetime, dollars appropriated by the Congress dominate the shape and way of things in the Armed Forces, as in all other governmental activities. Dollar-wise, it appears that

Second: We're going to have a whopping big Navy . . . a Navy larger than the rest of the world's navies combined . . . a Navy with its own air elements . . . a Navy with an appreciable ground force in the Marine Corps.

Third: We're going to have a whopping big Air Force . . . an Air Force either autonomous within or independent of and separate from the Army . . . an Air Force that, despite all our brave words about "unified efficiency and economy," will probably take with it a good healthy slice of the Army's technical and supply services . . . an Air Force that is already

engaged in an earthy scramble for control of guided missiles, logically artillery weapons in my judgment.

Fourth: We're going to have an Army, too . . . an Army with unprecedentedly great world-wide and domestic responsibilities . . . but an Army that may find itself slogging along, dollar-wise, on what's left over.

Soldiers, sailors, airmen, marines—we all work for the common goal of national security. This goal demands a reasoned balance between the air, ground and naval forces. There will be no reasoned balance, hence no security for this Nation, if we wind up with a *left-over Army*.

Back, then, to our earlier question. Can you over-ride an essential? My answer is "Yes," Branchless or otherwise, our Army will trail along in a left-over third place if we ground soldiers squander our professional loyalty and effort in diffused indirection. Prudel we can and should be for the essential functions of our respective arms and services, but we must strike hard and at once for a *truly articulate and aggressive cohesiveness for and within our Army*. Otherwise, we may be answerable one day to the question: Why did the United States have a left-over Army?

FUNCTIONS, FRAMEWORK AND CAPABILITIES OF SERVICE ASSOCIATIONS

What do the Service Associations have to do with all this? What is their function and framework of operations? What are their capabilities?

Functions. Each arm and service of our Army has realized an *essential* need over the years for a professional meeting ground and a medium for the *free* expression of constructive ideas. Note the italicised words. They are the twin keys to Service Association success. Unhampered by official control, each one has satisfied an essential need over the years of an essential function. Tear off insignia, change names, centralize or decentralize—these functions remain essential and unchanged. Their progressive development will require in the future, as it has in the past, a meeting ground for the free expression of ideas.

Unknown to most people, incidentally, is the freedom enjoyed by this Association and the two others that utilize active duty personnel. The following words are extracted from an official directive published by the Commanding General, Army Ground Forces:

"The interest of the Service and the Nation will be served best if these Associations provide an unhampered meeting ground, through their publications, for the free expression of constructive ideas. Consistent therewith, no individual or headquarters in the Army Ground Forces will seek by any means to interfere with or to control the internal or editorial policies of these Associations, which will remain within the discretion of their respective governing bodies."

Framework. Nowhere among the objects of this Association, printed on the opposite page, will there be found a basis in logic for this type of editorial. Those objects relate only to the Field Artillery.

Then why was this editorial written? It was written because I am convinced that an essential can and must be over-ridden. The needs of the Army transcend now, as they always have and always will, the needs of any of its parts.

There is no logic to the Service Association framework. In fact, there is no framework at all. The arms and services have their respective meeting grounds. The Army has none. Non-competitive though our Service Journals be, and try as we editors may to retain an unbiased objectivity, I am convinced that our "one level" structure contributes unwittingly to a diffusion of the ground soldier's professional loyalty and effort. If this be true, I submit that the framework is faulty and must be corrected. Somehow and in some way we *must create a meeting ground on the Army level*. For obvious reasons, such a meeting ground should be entirely free, as are the existing Service Associations, from any semblance of official control.

Capabilities. We ground soldiers must heave ourselves together mentally, and at once. *We are going to be the Army one of these days.* Who will be more responsible than ourselves if this Nation winds up with a left-over Army?

A logical integration in the framework of the Service Associations—with a suitable meeting ground at the Army level complemented by the essential and existing meeting grounds at the level of the arms and services—could help immeasurably in creating a *truly articulate and aggressive cohesiveness for and within our Army*. This is vital, I repeat, to insure against this Nation winding up with a left-over Army.

POSTSCRIPT TO ARTILLERYMEN

Let no gunner presume for an instant that I am either recommending or anticipating in any way the withering away of this Association or any of the other Service Associations. The artillery function has had a journal since 1892. Split apart in 1907, the two "artilleries" are now destined to be merged. Logical in every way, the re-marriage of our "artilleries" will lead inevitably to the remarriage of the Field and Coast Artillery Associations. But this, after all, is a *parts* problem. All parts of our Army have problems. This editorial transcends the needs and problems of the parts. This editorial points out an overriding need and problem of the *sum of the parts*—the Army as a whole.



Colonel, Field Artillery

FORWA-A-ARD-MUSH!

Men and Machines Battle the Arctic

By Lt. Col. Stanley W. Dziuban, GSC.

ARMIES of the future, certain advanced thinkers tell us, will have no place for mere foot-soldiers. Atomic bombs, guided pilotless aircraft, missiles flying at supersonic speeds, and other developments now emerging from the drawing boards, will drive the foot-soldier into the ranks of the unemployed. The responsibility for our national security will rest safely in the hands of a few alert wizards, who, by pushing the appropriate push buttons among glittering batteries of push buttons, will unleash our forces of counteraction so as quickly to destroy the bases for surprise attacks by our enemies.

OVER-THE-TOP ROUTE

And the direction of future attacks on the United States? Here our advanced thinkers flash a polar projection of the Northern Hemisphere and demonstrate that the shortest routes from Paris, Berlin, Rome, Moscow, Tokyo, or other points on the Eurasian world-island, pass

over the Polar ice cap and enter North America via Alaska, Greenland, or northern Canada and its Arctic islands.

Obviously, certain predictions of the war of the future are now close to realization. Atomic bombs, supersonic speeds, pilotless aircraft and guided missiles—these and other weapons are now in our hands and are being developed technically for greater ranges and destructive power. Aircraft of the characteristics of the B-29 place the industrial heart of the United States within range of non-return sorties from Eurasia. The new B-36 will permit sustained operations over these ranges.

On the other hand, some may not accept the thesis that the push button war of the future will dispense with the need for foot-soldiers. These nonconformists will do well, however, to accept the possibility of warfare in the Polar regions and to examine and find the place of the foot soldier in such warfare. In making this examination it will be

necessary to avoid two major pitfalls fairly obvious to those familiar with Arctic and sub-Arctic North America.

First, our foot-soldiers will not operate in standard divisions in "type" corps, supported over normal lines of communication. Environmental factors and conditions such as temperature, snow, ice, terrain, and lack of communications will render inoperable much equipment and will demonstrate that standard tactics, organizations, and techniques will not work under these conditions. Therefore, we will avoid a hasty deployment and maneuvering of divisions in the areas in question. Secondly, we will disagree with those who, overawed by talk of -50° temperatures and of summer muskeg and swamps, think of Arctic ground operations in terms of small detachments moving via sled and dog-team to the accompaniment of cries of "Mush." These would dismiss ground operations in the Arctic as infeasible because of conditions.

OPERATION "MUSKOX"

What place then can we find for ground operations under Arctic and extreme Arctic conditions? The completion of Canadian exercise *Muskox* at Edmonton, Canada, on 6 May and the reports of the American observers on their recent return to Washington permits a more accurate appraisal of the feasibility of ground operations in Arctic areas, at least under winter conditions, than has previously been possible.

Muskox was an exercise sponsored by the Canadian Government for the purposes of conducting technical research



Norseman taking off after having landed alongside the Moving Force on the "Barrenlands."

in fields such as meteorology and magnetics and of determining the adequacy of new equipment and means of oversnow transportation. These preliminary steps are part of the program designed to further the development and exploitation of Canada's Arctic areas and their rich resources. The exercise was executed by the Canadian Army, but included civilians and American and British observers, with cooperation by an air supply detachment of the RCAF. In this non-tactical move, the *Muskox* ground force covered in its vehicles some 2,700 miles in the 80 days between 14 February and 4 May 1946, moving an average of 50 miles per day on each of about 60 days. As a byproduct of the

Commissioned in the Corps of Engineers upon graduation from the Military Academy in 1939. Lieutenant Colonel Dziuban commanded the 39th Engineer Combat Battalion during operations in Sicily and Italy. He returned to attend the Army-Navy Staff College in April, 1944, and then joined and served with Headquarters, 6th Army Group, until VE-Day. Colonel Dziuban is now assigned to the Plans and Operations Division, WDGS, and spent a week at Port Radium (see cut) while the *Muskox* Force approached and remained there.

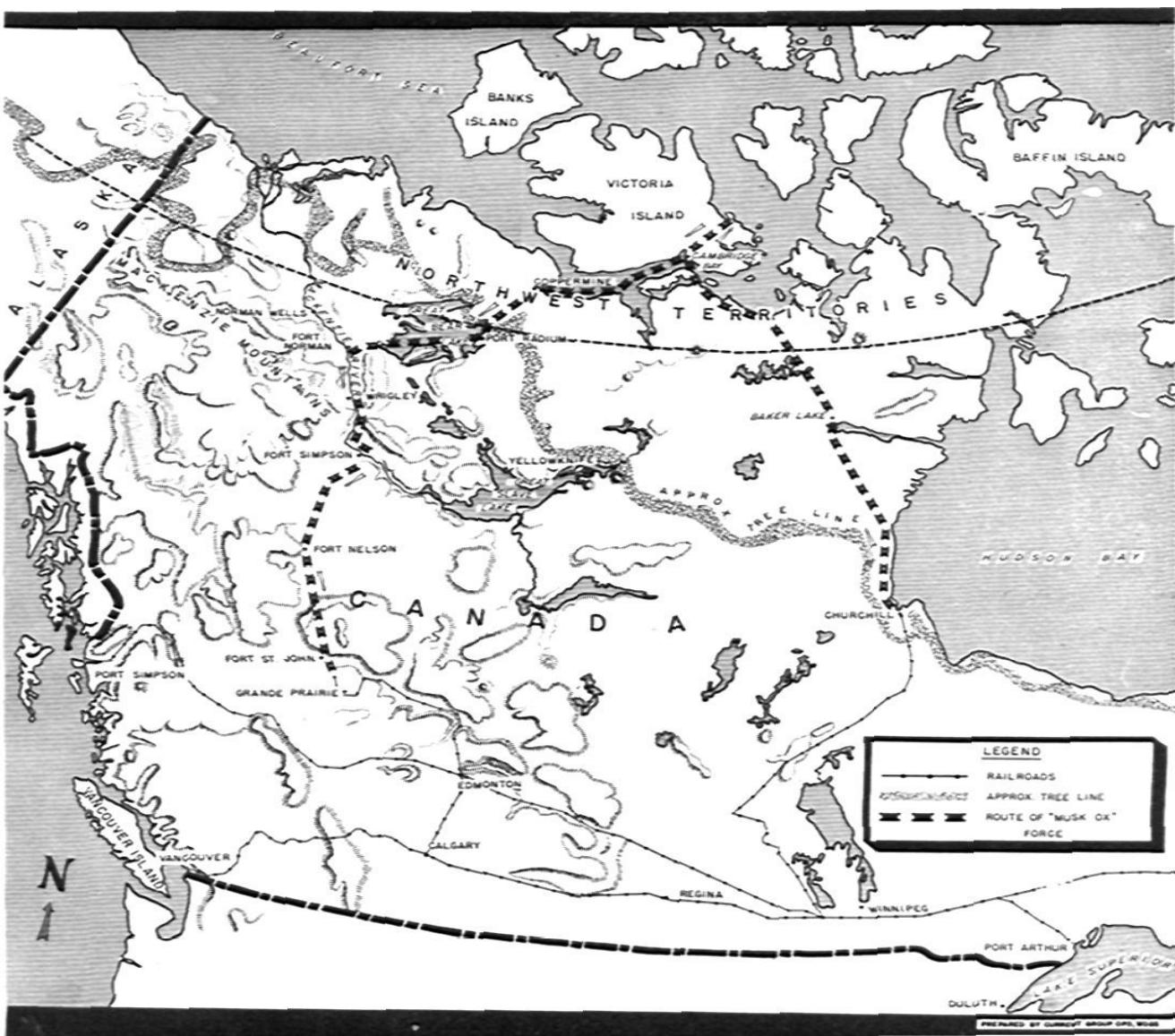
exercise, valuable military experience was gained in the movement and maintenance of a mechanized force

under extremely cold weather conditions, mobility of different types of oversnow vehicles, sleds, and trailers, and ground-air cooperation in air supply under these conditions.

TERRAIN

The terrain unit traversed is separated from Alaska and western Canada by the Rocky Mountains and fronts on the Arctic approaches of the North American Continent. It is made up of the following areas:

Canadian "Barrenlands," lying northeast of the general line from the mouth of the Mackenzie River to Churchill, on the west side of Hudson Bay (see



map and cuts). This area possesses true Arctic conditions, compares to our Arizona desert-lands in relief, is devoid of tree-growth, consists of innumerable poorly-drained lakes separated by swamps and muskeg tundras, and has a snow cover except from late May to early October. It is virtually uninhabited except for scattered whites at trading posts and some Eskimos. By comparison, only the northern coast of Alaska qualifies as having Arctic, as opposed to sub-Arctic, conditions.

Laurentian Upland, forming the sub-Arctic belt south and west of the Barrenlands, and bounded on the southwest roughly by a line from the mouth of the Mackenzie River through Edmonton to Winnipeg. The area, except for a tree cover of scrub conifers, is lake, swamp, and tundra country similar to the Barrenlands. However, there are frequent rock outcrops, with relief up to 1,000 or 1,500 feet, containing considerable mineral resources. This area is more thickly inhabited, with Indians and whites. Considerable mining activity takes place in the south half and is moving northward as extraction of the ores becomes economically feasible. Fairbanks, Alaska, has comparable conditions.

Canadian Arctic Islands, those directly north of the above areas being similar in their geography to the Barrenlands. Exploration throughout these Islands, whose channels and straits are navigable for about three summer months, is far from complete. Unexplored areas north of Alaska may reveal similar islands.

Snow houses built by men experienced in living under Arctic conditions provided quarters where crews could cook and sleep in relative comfort.



CLIMATE

As to climatic conditions, the period selected for the exercise was ideal. The snow cover and frozen rivers and lakes permitted maximum mobility. Precipitation, which is small the year round and occurs principally in the summer, was at a minimum. Blowing snows, however, presented a problem on the Barrenlands. Winter temperatures on the Barrenlands run from -20° to -40° F., with extremes up to -55° F. The period chosen usually has best flying conditions of the year.

A brief description of the specific terrains travelled by the force in its vehicles follows:

Churchill to Victoria Islands: 1,150 miles of Barrenlands with little relief and fairly easy travelling. Rock-strewn terrain severely tested the vehicles and sleds.

Victoria Island to Coppermine: 310 miles of sea ice with easy travelling except for occasional pressure ridges.

Coppermine to Port Radium: 150 miles. Probably most difficult leg. Barrenlands with numerous 50-100 foot escarpments making for slow progress.

Port Radium to Ft. Norman (on Mackenzie River): 270 miles, of which the 200 miles across Great Bear Lake ice present ideal travelling conditions.

Ft. Norman to Simpson to Ft. Nelson: 550 miles on winter tractor trails was traversed easily except for some

difficulties as early thaws carried away river ice and melted the snows.

Ft. Nelson to Grande Prairie: 300 miles on the Alcan Highway.

THE FORCE

Commanded by Lt. Col. Pat Baird, an experienced Arctic hand, the Ground Force originally consisted of 52 personnel in three divisions of 4 vehicles each. The force, which began its march on 15 February after about two months' training at Churchill, was reduced to 40 personnel in two divisions of 5 vehicles each when air supply requirements were found to exceed estimates and additional RCAF aircraft could not be made available to handle the added requirements. The vehicle was the Canadian Snowmobile, 400 of which were produced for the proposed invasion of Norway, modified by the removal of some of its light armor and substitution of a duralumin cab (cuts). The vehicle is equipped with an 8-cylinder Cadillac gasoline engine with hydramatic transmission. Two sleds were towed by each vehicle, one each of a Canadian type and the M-29 American type.

SUPPLY

Supply elements of the exercise included a Base Force stationed progressively at Churchill and Baker Lake, Yellowknife, Norman Wells, and Edmonton, and an RCAF Air Supply Unit (ASU). This ASU contained five Dakotas (C-47) with normal landing

Winterized oil flowed freely at 45 degrees below zero. Ordinary oil was frozen solid.





gear, and two ski-equipped Noorduyn Norsemen. By cooperation with U. S. Army Air Forces, several CG-4A troop carrier gliders were made available for experimental purposes. Air supply was normally affected by several methods; by air drop to the force, by landing Dakotas or Norsemen on the snow or ice alongside the force, or by establishment in advance of a supply cache by one of the foregoing methods. On several occasions, CG-AA gliders landed a motor and other supplies alongside the force and were then "snatched" without a landing by the towship.

NOT A TACTICAL EXERCISE

Exercise *Muskox* was successfully executed despite the fact that experienced individuals had predicted its failure. The force of 10 Snowmobiles covered a difficult course, with relative ease under severest winter conditions, and supplied fully from the air. It must be kept in mind that the exercise was only a non-tactical movement or march. Each day's movement, which usually varied from 25 to 100 miles, represented the full normal capabilities of the force for the day. The force was neither equipped nor organized as a tactical formation, and only limited tactical operations would have been possible each day in addition to the march for the day. In addition to the supply and movement operations each day, the planned technical research was executed. The force garnered a wealth of experience and learned many lessons, some of which are outlined in later paragraphs.

The personnel of the Moving Force was not comparable to that of a typical tactical formation of similar strength. Over 50% of the Force consisted of officers or civilian technical experts.

Enlisted members were limited to drivers, mechanics, and radio operators. In general, it cannot be considered that all military members of the Force were handpicked, although all were volunteers. The junior officers and enlisted men represented a cross section such as might be found in a typical infantry rifle company with the exception that personnel obviously unfitted for Arctic work were eliminated. About 50% of the Moving Force had had no previous experience in Arctic or sub-Arctic operations. On the other hand, many members were individuals of considerable experience. As a result of the training at Churchill, all personnel of the Force, regardless of previous experience or individual abilities, were able to perform their duties in connection with the exercise.

COMPARATIVELY "SOFT" LIFE

It must also be kept in mind that the individuals of the Force were not required to operate out-of-doors for protracted periods and that the life of members of the Force was comparatively "soft" compared to that of an active Eskimo, for example, working out-of-doors all day long. The Force would move in its enclosed, heated (except for not infrequent heater failures) vehicles during the day, halt and pitch camp, and spend the night in tents. Techniques must be developed which will make even less arduous the life of the individual in such a force in order first, that he may effectively do the job assigned him, and secondly, that a maximum of the individual's daily effort can be devoted to doing his job and not to the task of keeping himself fed, housed, and comfortable. This, although generally

applicable everywhere, is particularly important in the Arctic where every task of operation takes longer for the individual to perform. Two examples of techniques which, although not used on *Muskox*, can be adapted are as follows. Proper design should permit the personnel accompanying a vehicle to sleep within it. This would eliminate the time required for making and breaking camp, the average time required daily for the *Muskox* force being 2½ hours. Secondly, the unit messing system should be employed, thus saving the time spent by each individual in the heating or preparation of his three meals a day. In the Moving Force, all its senior officers expended an appreciable amount of time daily for this purpose.

SOME LESSONS

On the other hand, although techniques should be aimed at maintaining necessarily comfortable working conditions and at reducing to a minimum the time devoted to the task of living, all individuals will have to be trained in and capable of living and working outdoors for long periods, like the Eskimo. Personnel of small patrols or similar elements may be called upon to live in this manner, as may all personnel in case of emergencies.

Many types of individual clothing and equipment, U. S., Canadian, and Eskimo, standard and experimental, were tested during the exercise. Sound conclusions are available as to the best way of clothing the individual under the severest Arctic conditions. Hands and feet are the most difficult problems, the feet because they seem most vulnerable and disabling, and the hands because adequate gloves and mittens

make jobs requiring finger manipulation very difficult.

The Canadian Snowmobile demonstrated, within certain limitations, its adequacy for operations in the snow and ice of extreme Arctic conditions. Numerous improvements can be made to better its performance. The one U. S. M-29C amphibious tractor, the "Weasel," which started out from Churchill, failed mechanically within the first week. Rugged terrain and heavy towed loads

Canadian Army) which furnishes normal commercial communications facilities for the Northwest Territories. By means of the above systems, the Moving Force was able to remain in constant radio communication with stations of the above systems, and were able to maintain voice communication much of the time. Using the above communications systems, elements of the Moving and Base Forces scattered throughout Canada were able to communicate quickly with each other



Refueling Snowmobile from 5 gallon gas cans carried on Canadian-type sled.

appeared to cause the specific reasons for failure. Its use during the training period indicated that the "Weasel" can be used successfully under heavy Arctic conditions when its limitations are clearly established. However, this vehicle needs to be supplemented and replaced by others possessing better characteristics. The "Weasel" does promise to be the best available vehicle for meeting the requirements of summer conditions of swamp and muskeg, as well as winter conditions.

In maintaining communications, the Moving Force and other *Muskox* elements were able to operate within the framework of two existing communications systems, the Government's Department of Transport radio and telegraph system comparable to the USAAF Army Airways Communications Service, and the Department of Mines and Resources' radio system (actually operated by the

excepting at times when radio service in general was interrupted by solar or other disturbances.

TWO QUESTIONS

Still searching for the place of the foot-soldier in Arctic operations we can now, after having examined the results of exercise *Muskox*, ask ourselves two questions whose answers should enlighten us. What are the capabilities of ground forces, now and in the near future, in Arctic areas? What may the requirements be for the employment of ground forces in Arctic areas in the years to come?

Exercise *Muskox* proves that properly equipped and trained, mechanized ground forces can operate in Arctic areas, at least during the fall and winter seasons of frozen ground and water. It is readily apparent that the force could have been substantially larger. Could it have been a hundred times, or a thousand times

greater? And what should the composition of such a force be? Ground force operational capabilities in a given theater bear a direct relation to the logistic ability to support the forces. In Arctic areas, the relation is one in which logistics completely limit these operational capabilities. Since communications facilities are practically nonexistent normal lines-of-communication will be out of the question. Except for the railhead at Churchill, on Hudson Bay, there are no rail facilities in Arctic North America. Except for a limited net of winter tractor trails, there are no roads in the same area. In the winter, cross-country mobility is easy for vehicles with suitable characteristics, such as the Snowmobile. During the summer months, the lakes, swamps, and muskeg, coupled with the lack of roads or railroads, make ground movement extremely difficult. During the summer months water transportation on the Mackenzie, and other of the larger rivers, and on the lakes is a feasible means for supply movements, although limited by the network, drafts, need for portages, and the short season of open water.

Air movement and supply is the answer. This is the most practicable means of moving men and materials throughout Arctic North America all seasons of the year. The innumerable rivers, lakes, and sea areas provide countless summer landing grounds for amphibians or seaplanes, and winter landing grounds on their 5-6 foot thick ice for standard or ski-equipped landing gear. Troop carrier aircraft will air-lift the ground force to or near its objective. Parachute or glider troops will be particularly suitable. The operating force will then have to be supplied by aircraft operating from bases at rail or water-heads.

The size of the ground force which could be supported in Arctic North America would be determined by the solution of the logistic problem of operating the maximum number of aircraft with suitable characteristics from the available bases. Such determinations get into the realm of our military secrets, but it is rather obvious that a major force could be supported if an operational need existed. Many only partly-answered questions need to be

studied further to determine the best composition, equipment, tactics, and techniques of such ground forces. Training and the human factor will merit most serious attention, for under Arctic conditions, a mistake by an inadequately-trained or inept soldier may easily cost him his life.

In analyzing possible requirements for employment of ground forces in Arctic North America, we must hasten to make clear that we do not predict that large ground armies will march and maneuver in the area. The difficulties which will beset a would-be ground invasion via Arctic areas of course form the greatest natural defenses to such attack on our northern flank. Certainly we must develop maximum operational capabilities for ground forces in Arctic as well as other areas. If, in the event of another war, the initial all-out air assaults are unsuccessful, it may fall to the ground forces, as it has in every war thus far, to force the decision by seizing vital enemy objectives or defeating his armies. Ground operations in the Arctic of limited scale are not unlikely. As did the Germans in Greenland, a potential enemy might establish small garrisons for weather or communications services, for harassing operations, or as diversionary efforts. Means far out of proportion to the enemy's effort would have to be diverted to reduce these garrisons. Such bases might offer launching sites for missiles which would put our industrial and population concentrations within range.

GREATEST VALUE—AND PROBLEM

The greatest value of exercise *Muskox* then has been, not its demonstration that 10 Snowmobiles and 40 individuals can travel 2,400 miles through Arctic and sub-Arctic Canada, but its pointing up the need for a broad program of research, testing, development, and training by the Army in true Arctic operations. A limited amount of experience under certain sets of conditions has been obtained. The problem, however, is so great, and the handicaps, such as nonexistent communications, adverse weather, lack of information, sparse population and development are so numerous, that a major effort will be necessary to execute such a program.

WELCOME TO THE FIELD ARTILLERY

The United States Field Artillery Association is proud to extend greetings and congratulations to each of the following named officers, who are the Field Artillerymen among the nine hundred officers recently nominated for commission in the Regular Army. These appointments are in addition to the nine thousand eight hundred nominated in June and will fill vacancies to make up for declinations of appointments and attrition losses.

The appointment of this group brings our officer strength up to twenty-five thousand and is not to be confused with the more recent authorization for an additional twenty-five thousand officers for the Regular Army. The War Department augmentation plan for the additional twenty-five thousand officers had not been announced when this issue went to press.—EDITOR.

- 2nd Lt. (1st Lt.) Donald E. Adams
- 1st Lt. (Capt.) Nathan J. Adams
- Capt. (Lt. Col.) Edward L. Austin
- 1st Lt. (Capt.) Roy H. Bass, Jr.
- Capt. (Major) Wyatt G. Batton
- Capt. (Lt. Col.) Philo M. Baumgartner
- 1st Lt. (Capt.) James L. Beaton
- 1st Lt. (Capt.) Walter R. Benson, Jr.
- 1st Lt. (Lt. Col.) Asa C. Black
- Capt. (Lt. Col.) Richard D. Boerem
- 1st Lt. (Capt.) John A. Bolland
- 1st Lt. (Major) William S. Bowers
- Capt. (Lt. Col.) Paul Burns
- 1st Lt. (Lt. Col.) Francis M. Clark
- 1st Lt. (Capt.) Ralph M. Click
- 2nd Lt. (2nd Lt.) Richard E. Cross
- Capt. (Lt. Col.) Albert R. Cupello
- Capt. (Lt. Col.) Donald M. Curtis
- Capt. (Lt. Col.) John L. Davids
- 1st Lt. (Capt.) Roger A. Del Zoppo
- 2nd Lt. (2nd Lt.) Hobart E. Dewey
- 1st Lt. (Capt.) Clifford P. Duvall
- 1st Lt. (Capt.) Kenneth R. Eckert
- 1st Lt. (Major) John C. Eigenmann
- 1st Lt. (Capt.) John W. Ervin
- 1st Lt. (Capt.) Thomas H. Evans, Jr.
- Capt. (Lt. Col.) Robin B. Gardner
- 1st Lt. (Capt.) Robert E. Greiner
- 1st Lt. (Lt. Col.) Ralph J. Grimsley
- 2nd Lt. (1st Lt.) Rex C. Gunnell
- Major (Col.) Fred S. Hanna
- 1st Lt. (Major) Burrell C. Hassett, Jr.
- Major (Col.) Howard Hazlett
- 1st Lt. (Capt.) Tony S. Henderson
- 1st Lt. (1st Lt.) Joseph A. Hill
- 1st Lt. (Lt. Col.) Allan S. Hirsch
- Capt. (Major) Donald K. Hughes
- 1st Lt. (Maj.) Joseph J. Jackson
- Capt. (Maj.) William G. Johnson
- Capt. (Lt. Col.) William M. Keane
- Capt. (Lt. Col.) Hall King
- 2nd Lt. (1st Lt.) Alfred R. Kitts
- 1st Lt. (Lt. Col.) H. F. Lambert
- 1st Lt. (Capt.) Harbin B. Lawson
- 1st Lt. (Major) Ross N. Lillard, Jr.
- 1st Lt. (Capt.) Richard M. Lovelace
- 2nd Lt. (Capt.) William J. Luckey, Jr.
- 2nd Lt. (1st Lt.) E. R. Lukosky
- 1st Lt. (Capt.) Marshall G. McBee
- 1st Lt. (Capt.) William L. Marks
- Capt. (Lt. Col.) D. A. Mathewson, Jr.
- Capt. (Lt. Col.) Ralph D. Maxfield
- 2nd Lt. (2nd Lt.) C. W. Meacham
- Capt. (Col.) George K. Moody
- 1st Lt. (Major) R. T. Neumann
- 1st Lt. (Lt. Col.) Alvin L. Newbury
- 1st Lt. (Major) P. J. Orourke
- 1st Lt. (Capt.) Owen W. Owens
- 1st Lt. (Major) Claude L. Pridgen, Jr.
- 1st Lt. (Major) G. W. Putnam, Jr.
- 1st Lt. (Capt.) Frank M. Renfro
- Maj. (Lt. Col.) Chester F. Rouillard
- 1st Lt. (Lt. Col.) Fred A. Smith
- Capt. (Lt. Col.) Fred C. Smith
- 2nd Lt. (1st Lt.) Irvin D. Smith, Jr.
- Capt. (Lt. Col.) W. I. Stuart
- 1st Lt. (Capt.) Edward C. Troescher
- 2nd Lt. (1st Lt.) Stanley C. Waldner
- Capt. (Major) Hayden B. Whitehouse
- 1st Lt. (Major) Floyd D. Williams
- 1st Lt. (Major) Paul F. Wilson
- 1st Lt. (Capt.) Charles H. Wuest
- 1st Lt. (Capt.) William B. York
- Capt. (Lt. Col.) Richard C. Zalesky
- 1st Lt. (Lt. Col.) John S. Zimmerman

HEROES ALL

*High tribute to Artillery observers—taken from the history of the
96th Infantry Division, soon to be published by the Infantry*

BECAUSE THEY WERE TRAPPED IN THE notoriety backwash of the rugged and gallant infantrymen, the artillery forward observer sections received shamefully little recognition for their heroic and dangerous deeds in combat. They seemed to be caught in the swirl of scarlet blood which clothed the doughboys and enabled them to stand apart from the others as the story of war unfolded.

Yet these same sections worked shoulder to shoulder with front line companies, many times with the farthest advanced elements of the infantry. They suffered everything endured by the doughboys and with them brushed with death and destruction morning, noon and night.

One of the greatest satisfactions these artillerymen carried back from the front lines was the admiration, respect and gratitude the doughfeet themselves willingly and outwardly expressed for them.

Col. Michael E. Halloran, commanding officer of the 381st Infantry Regiment, summed up the attitude of every infantryman in a letter of commendation sent to Lt. Col. Avery W. Masters of the 361st Field Artillery Battalion for their outstanding support of his troops during the Okinawa campaign. In part he said:

"The officers and men of the artillery shared with the infantry the hardships and dangers of the struggle. Forward observers, liaison parties and staff officers of the artillery were constantly in a forward position regardless of the attendant hazards. No single act by any group contributed better to the morale of the troops of this regiment than the brave, loyal and effective teamwork so devotedly performed by you, your officers and men."

When the weary and grizzled infantrymen, who know full well they shouldered the bulk of the dangerous, dirty and murderous fighting of any land

battle, placed men of another branch on a pedestal, then these artillerymen must have had something—and they did.

"Those guys would go anywhere up front," remarked Capt. D. C. Williams of the 383d Regiment. "It sure didn't take us long to appreciate their value and then we began doing everything to protect them. But you couldn't hold them down."

T/5 Wallace R. Turner of the 361st Field Artillery Battalion, who received the Silver Star posthumously for his action, illustrates the point brought out by Capt. Williams. On April 26 during a heavy enemy counterattack, the infantry outfit to which Turner was attached needed more riflemen. Without hesitation Turner volunteered even though he was unfamiliar with infantry weapons and tactics. He crawled to a forward position which was constantly exposed to enemy small arms and mortars, and delivered accurate fire to kill and seriously wound several of the enemy. During this action, Turner was mortally wounded by a mortar fragment.

Forward observer sections normally were composed of one officer, one sergeant, two wiremen and a radio operator. These groups traveled with the front line infantry companies at all times to form the link between the target area and the artillery pieces which were in position from one to several miles behind the front lines. These observers continually had to expose themselves to locate such targets as enemy troops, gun emplacements, machine gun nests, mortars, tanks, etc. At this point their task was extremely dangerous since the best method of finding a mortar or machine gun which must be knocked out was to look for it while it was firing.

When the target was located, these sections relayed to the gun positions the information necessary to place their artillery fire on the selected target. Then as the shelling of an enemy position began, the observers again had to expose

themselves to see where their rounds were landing so they could make the necessary corrections to be sent to the guns to bring the shelling closer to, or on the target.

Closely related to these groups were the liaison sections, another group which worked at the front to coordinate the work of the many forward observers working in a particular area.

A few lurid statistics will show the obvious dangers these men encountered in quietly doing their routine assignment at the front. At Okinawa the forward observer sections of C Battery of the 361st FA Bn had 13 Purple Hearts, 9 Bronze Stars and 1 Silver Star. Their casualties included five men killed, Lt. William O. Ward, S/Sgt. Thomas L. Brown, Cpl. Bille W. Robinson, Pvt. Edgar Davis, and Turner.

In B Battery of the 921st FA Bn the forward observer sections received 13 Purple Hearts, 7 Bronze Stars and 2 Silver Stars. The casualties included two killed, Lt. Edward W. Voit and T/5 Thaddeus A. Biesiada, and one man who lost his left arm, Cpl. Jack P. Podbevsek.

Still the common conception of the artillery is that it's a safe branch of the service, even an easy branch. Back in training camps the doughboys themselves had this idea as much as anyone else. They envied the artillerymen.

While the infantry toiled and sweated on long and tedious marches, the artillerymen remained in camp. But it was necessary for them to stay there to learn and master the specialized responsibilities, essential to artillery—survey, fire direction, mathematics, instruments, their big guns and the methods of adjusting their firepower on targets in support of any ground operation. Every place the infantry went, they walked. Every place the artillery went, they rode in trucks and jeeps—and the doughboys resented all this.

But only one day on the proving ground of the battlefield—just one day—was practically all that was needed to heal any sores of resentment.

Shortly after the initial waves hit the beaches of Okinawa on Easter Sunday morning, a company of infantry was held up by a road block and simultaneously

surprised by a Jap attack of company strength. As his men began to scatter for suitable coverage to take up the battle, S/Sgt. Robert Van Benthuyzen, the NCO in charge of the artillery forward observer section of Battery A, 921st FA Bn, which came ashore initially with this particular infantry unit, refused to budge and dropped on one knee to protect his men. He pumped full clips (15 rounds per clip) from his carbine into the Japs who were 60 yards to the front blazing away with machine gun and rifle fire. A bullet finally pierced his chest and he died 20 minutes later in a clearing station, one of the first men in the division killed on Okinawa.

"There wasn't a man at the front who wasn't happy to see an artilleryman," Capt. Owen R. O'Neill of the 383d Regiment said when asked what his men thought about forward observers. "If they weren't around, the men were jittery. It didn't make any difference whether it was an enlisted man or an officer, just as long as it was an artilleryman. They were the greatest single morale factor we had at the front."

This tribute to the enlisted personnel was universal among the infantry. The rate of casualties among officers in charge was so great that replacements many times were impossible. It was then that the NCOs took over. In a great many cases they continued to command sections throughout the remainder of the campaign.

Cpl. George M. Slocomb of the 921st FA Bn did such a bang-up job on Okinawa for the unit to which he was attached that the infantry commanding officer tried to refuse an officer replacement when the artillery wanted to bring Slocomb back for a rest. Slocomb had taken over the section the fifth day on Okinawa when his officer was killed and continued with a FO section for the remainder of the battle, returning only a couple of times for a rest. He refused two battlefield commissions, once on Leyte and once on Okinawa.

Another enlisted man who took over and pulled the infantry out of a tight spot was T/4 John P. Barry of the 362d FA Bn. In spite of his terrific mental strain since he was the only surviving member of his section and their radio had been knocked out, Barry grabbed an infantry

radio and with a display of coolness under fire remained at his position until the infantry objective was taken. He relayed fire missions with such speed and accuracy that the doughboys took their objective with a minimum of casualties when they might have been without any artillery support—under the circumstances.

As any battle moved forward and settled down to a duel of tactics, strategy and give and take the forward observer sections took up their places beside the doughboys. They lived and ate with them. They shared nearby foxholes through the night and during the day slogged forward with them as they inched toward the enemy in the painful process of gaining more precious ground. It was here that the heroic deeds of both infantrymen and artillerymen were interwoven in the pattern of nerve racking life at the front.

One of the most horrible fears in the Pacific front was the thought of being trapped behind enemy lines and captured by the Japs. Forward observers were not immune to this danger either. Two men from the 921st FA Bn owe their lives to the gallant action of Sgt. Howard C. Pitts of the same section when all three were caught behind the Jap lines at Kakazu Ridge. They were attached to the 383d Regiment's famous L Company, which received the Distinguished Unit Citation during the same action.

Five of the six men in the section, including Pitts' commanding officer, were wounded as the infantry was pushed back during a fierce counterattack. Those who could walk went for help while Pitts dragged the other two, T/5 Stanley J. Gush and Pfc. Marvin J. Pruitt, from cover to cover over an area under constant observation by the enemy and swept by heavy machine gun and rifle fire.

The situation was such that help could not return and an artillery smoke barrage laid down to aid their escape was ineffective because of the high wind. Before Pitts could reach a small draw which led to safety, darkness set in. Rather than leave the two seriously wounded men alone and escape himself under cover of darkness, he told them that they'd all get out alive or none would. They hid in a nearby cave during

the night from where they could hear Japs walking around and jabbering from time to time.

Pruitt's leg was broken and it required a tourniquet all night long, while Gush also was seriously wounded in the leg. Pitts himself was bleeding from a painful mortar fragment wound in the ankle. None of them had weapons.

During the night the Japs had moved up between their cave and friendly lines, but Pitts decided to make a break. At 5:30 in the morning, he left the cave and Pitts alternately dragged Pruitt on a poncho and carried him on his back while Gush half walked and crawled. They inched along this way for nearly 700 yards when Pitts finally saw friendly troops. It was at this point that the trio was discovered and fired upon by a Jap machine gunner and two snipers. Pitts finally got both men into the safety of a draw and then made a dash for our lines. Four men and two litters finally were worked out to the other two and they were brought out safely.

Pitts received the Silver Star for this action, and later in the campaign received a battlefield promotion to second lieutenant.

Capt. Rollin F. Harlow, Battery A commander of the 361st FA Bn, gave his life in attempting to rescue a 381st Infantry company commander on Okinawa. Both had crawled to the crest of an escarpment to observe the machine gun emplacement which was holding up the infantry's advance. While Harlow was adjusting artillery fire on the emplacement, the infantry officer was hit by a bullet and fell forward exposed to the enemy. Harlow left his position of concealment, and still relaying fire commands to his radio operator, exposed himself to machine gun fire while attempting to bring the wounded man back to safety. He was mortally wounded in the attempt, but before he died he gave his forward observer the exact location of the enemy guns that were holding up the advance.

Harlow at the time was up front with a relief forward observer section. As usually was his practice when a fresh FO section joined the infantry, he accompanied them to make sure the new officer and section were completely oriented on the situation. While engaged

in this job of his own choosing at this particular time, the infantry ran into some trouble and Harlow stepped in to help. He received the Silver Star posthumously for his action.

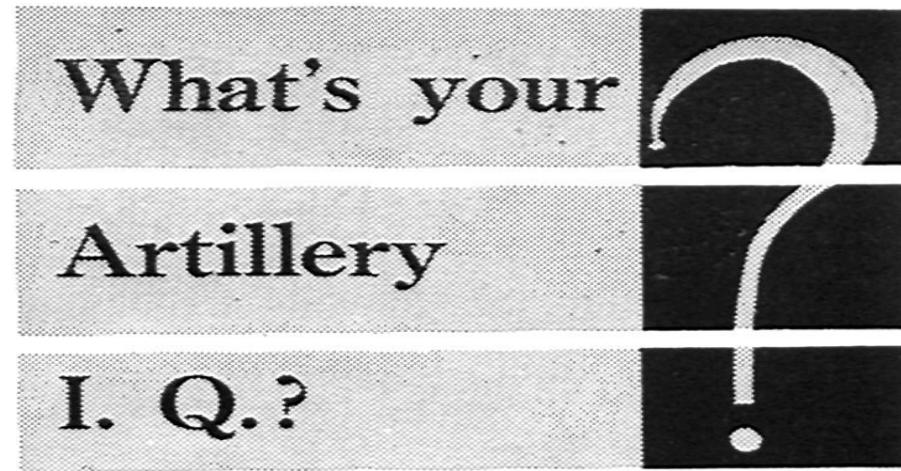
The heroism and initiative displayed by enlisted men were not confined to those times when they were left alone and forced to act by themselves because there was no other alternative. Sgt. Alvin J. Neuner of the 363d FA Bn sized up a situation during the fierce fighting at Kakazu Ridge and handled it expediently and efficiently although risking his life at the time.

From his position just behind the front lines he noticed that the infantry was receiving heavy machine gun and mortar fire but could not observe from where it was coming. Acting immediately, he crossed a fire-swept field, contacted the infantry and got the location of the guns. He then returned through this extremely dangerous area with the information which enabled his commanding officer to bring artillery fire on the enemy positions and destroy three machine guns, knock out one camouflaged pill box and silence the mortars.

Later in the day the same situation developed and Neuner again braved Jap observation and fire to obtain data necessary to fire the artillery. Upon returning this time, however, he found his officer absent so proceeded immediately on his own to adjust fire on a pill box and destroy it.

In spite of the fact that these particular artillerymen wear nothing which reflects their rugged assignment in battle, they have an intangible reward which they are not only mighty proud of but one which always will touch deep into their hearts. The infantrymen, officers and men, tried time and time again to get these men one of the most cherished of battle awards, the Combat Infantryman's Badge.

This particular award aroused the envy of all other troops and the doughboys proudly considered the badge as almost sacred, but they were willing to share it with another group of men they knew deserved it too—the forward observers of the artillery.



TURN PAGE UP-SIDE DOWN FOR ANSWERS!

1. The 8-inch gun M1 on carriage M2 weighs (in firing position) approximately: (a) 15 tons. (b) 25 tons. (c) 35 tons.
2. The high explosive antitank projectile is normally loaded with: (a) RDX, (b) Pentolite, (c) Pentaerythrite tonanitrate. (d) TNT.
3. In test firing of new weapons for proofing, a propellant charge equal to approximately (a) 80 per cent, (b) 100 per cent, (c) 120 per cent, (d) 150 per cent of normal is used.
4. The pistol, caliber .45, M1911A1, is: (a) semi-automatic, (b) automatic, (c) double action, (d) single action.
5. The probable error of the 8-inch howitzer M2 firing charge 7 at a range of 16,000 yards (approximately 86 per cent of the maximum range) is: (a) 15 yards, (b) 30 yards, (c) 45 yards, (d) 60 yards.
6. The traverse of the 105mm howitzer M2A1 on carriage M2A2 is approximately: (a) 400 mils, (b) 800 mils, (c) 1200 mils.
7. The gross load weight carried by a mule in a 75mm pack howitzer section is approximately: (a) 250 lbs., (b) 300 lbs., (c) 350 lbs., (d) 400 lbs.
8. The rounds per minute for prolonged periods of firing with the Browning Automatic Rifle is: (a) 30 rds., (b) 60 rds., (c) 120 rds., (d) 240 rds.
9. The standard firing mechanism of separate loading field artillery weapons is: (a) Continuous pull type, (b) Percussion hammer type, (c) Solenoid percussion hammer type.
10. As a gun or howitzer tube wears through firing, the range probable error: (a) Increases in a smooth curve until it becomes excessive; (b) Remains approximately the same, or may even decrease, until it drops off radically; (c) Decreases in a smooth curve until the weapon becomes unserviceable; (d) Increases in direct proportion to full service rounds fired throughout life of weapon.
11. If each of the following weapons were fired at the maximum rate of fire for five minutes, the greatest weight of projectile fired would be by the (a) 105mm howitzer, (b) 155mm howitzer, (c) 155mm gun, (d) 8-inch howitzer, (e) 240mm howitzer, (f) 8-inch gun.
12. The member of the fire direction team who reads and announces ranges and deflections from the firing chart is called: (a) The computer, (b) The horizontal control operator, (c) The vertical control operator, (d) The S-3.
13. In the coordinates (849.328-1297.682) the figures to the left of the dash are known as the: (a) X-coordinate, (b) Y-coordinate, (c) Hectometric coordinates, (d) Uncorrected coordinates.
14. The last element in the sequence of commands is: (a) Site, (b) Base deflection shift, (c) Method of fire, (d) Elevation.
15. A characteristic of FM radio receivers which lends itself to the prevention of jamming is the fact that these receivers will accept: (a) Only the clearest signal, (b) Only voice modulated signals, (c) Only local transmissions, (d) Only the stronger of two interfering signals.
16. To find an alternate circuit over which to route a call, the switchboard operator would refer to the: (a) Line route map, (b) Circuit diagram, (c) Station log. (d) Traffic diagram.
17. A telephone circuit superimposed on one metallic circuit using the ground for the return side of the circuit is known as a: (a) Side circuit, (b) Ground return circuit, (c) Simplex circuit, (d) Single-wire circuit.
18. A telephone circuit superimposed on two metallic circuits using each metallic circuit as one side of the new circuit is known as a: (a) Ghost circuit, (b) Two-pair circuit, (c) Side circuit, (d) Phantom circuit.

ANSWERS: 1. (c); 2. (b); 3. (c); 4. (a); 5. (a); 6. (b); 7. (c); 8. (b); 9. (a); 10. (b); 11. (a); 12. (b); 13. (a); 14. (d); 15. (d); 16. (d); 17. (c); 18. (d).

Tribute to Artillery

Praise unstinted for the great Artillery of a great Corps—a letter from Lt. Gen. "Lightning Joe" Collins to Brig. Gen. W. B. Palmer after VE-Day

With the cessation of hostilities in this theater, I wish to express to you and to the officers and men of the VII Corps Artillery my great admiration and appreciation for their outstanding performance in support of the Corps in the European campaign.

From D-day onward, the VII Corps Artillery was distinguished by its exceptional aggressiveness. All units were guided by the determination to give fire support whenever and wherever required and to reach the vital targets whatever the difficulties. Corps Artillery battalions were often emplaced in advance of divisional light artillery positions; 155mm gun battalions were on occasion attached to divisions and employed in direct



support of infantry. Unarmored towed battalions followed armored troops deep into enemy territory and fought with small arms in their gun positions. From Utah Beach to the Elbe, the Corps Artillery was pushed far forward into every fight and delivered its powerful support earlier and to deeper targets than had normally been contemplated in the science of artillery.

In our enthusiasm for the great part played by our air force, particularly the fighter-bombers, we must not lose sight of the magnificent support given our

infantry by the artillery, which was always ready with its fire, night or day, fair or foul weather. The great superiority of our artillery gave us a tremendous edge on the Germans. The VII Corps Artillery in close cooperation with the artillery of divisions constantly dominated the battlefield and protected our infantry in attack, while at the same time battering down the German defenses. This was true throughout the campaign, but especially during the deadly fighting about Aachen in the critical days of September, October and November 1944 when the VII Corps was extended over a wide front and vulnerable to enemy attacks from three sides. Repeatedly enemy attacks were smashed in front of our infantry lines by rapid and devastating artillery fire of many massed battalions. Although the enemy had more than 400 artillery pieces deployed on the corps front, the counterbattery fire of the Corps Artillery, and supported division artillery, was so overwhelming that the German artillery was incapable of sustained effort or accurate adjustment.

The VII Corps Artillery may well be proud of the exceptionally fine job it has done. As a team it was characterized by the farsightedness of its planning, the speed and smoothness of its fire direction, the thoroughness and care of its target analysis and intelligence work, and the complete sincerity of its cooperation with the supported troops. The splendid achievements of the VII Corps Artillery have contributed materially to the success of the corps in the European campaign. Please express to your officers and men my deep appreciation and very best wishes for the future.



Brig. Gen. W. B. Palmer, U.S.A.

IT WOULD NOT BE SURPRISING TO learn that the files of every corps and division artillery commander in our wartime Army contain a letter equal in wholehearted enthusiasm to General Collins'. Regrettably, all are not available. Nor would space permit using them all, if they were available. General Collins' letter to General Palmer is published for several reasons. First, it was at hand. Second, it is typical of what senior commanders—and particularly the former doughboys — felt about their artillery. Third, the VII Corps Artillery was a vital element of one of our greatest corps. And lastly, in this writer's view our corps and corps commanders and their staffs (and General Collins is certainly a most striking case in point) have never received the public credit properly their due.—Editor.

Lt. Gen. J. Lawton Collins, U.S.A.



CLAIM FOR SETTLEMENT—UNUSED LEAVE (Armed Forces Leave Act of 1946)		
<i>Form for use only of enlisted members of the armed forces of the United States separated from active duty under honorable conditions prior to September 1, 1946.</i>		<i>Before filling out this form, study it carefully and follow the instructions which are attached hereto.</i>
LAST NAME	FIRST NAME	MIDDLE NAME
DATE AND PLACE LAST SEPARATED AS AN ENLISTED PERSON.		PRINT OR TYPE—DO NOT USE PENCIL
4. BRANCH OF SERVICE FROM WHICH LAST SEPARATED AS AN ENLISTED PERSON.		2. ENLISTED SERVICE OR SERIAL NUMBER ON DATE LAST SEPARATED AS AN ENLISTED PERSON.
ANSWER TO 6 IS "YES" STATE NAME OF DEPENDENT.		3. GRADE OR RATING ON DATE LAST SEPARATED AS AN ENLISTED PERSON.
		7. RELATIONSHIP OF DEPENDENT.
		ANSWER TO 8 IS "YES" STATE DATES OF SEPARATION OTHER THAN LAST SEPARATION.
conditions since September 8, 1939		

30,000,000 Copies

Nothing surprises anyone these days—least of all statistical data incident to governmental administration—but 30,000,000 copies of Budget Bureau Form No. 49 (above) is quite a stack of blank forms. It is estimated that this number will be required to handle the claims of former enlisted men of the Armed Forces for benefits authorized them by the last Congress under the Armed Forces Leave Act of 1946.

Designed to equalize the leave benefits of commissioned and enlisted personnel, the Act will bring something like \$2,500,000,000 in cash and bonds into the pockets of some 15,000,000 members and former members of the Army, Navy, Marine Corps and Coast Guard.

The Act is the first major revision of leave policies in seventy years.

Based upon the best available information at the time this issue went to press, this short article explains the essential features of the Leave Act itself as well as certain particulars for the several broad groupings concerned.

ESSENTIAL PROVISIONS

Essentially, the new law gives officers and enlisted men and women of all services identical leave rights, limits the amount of leave which any individual may accrue hereafter to 60 days, and provides for reimbursement for unused leave during the period 8 September 1939 - 31 August 1946 (*in no event to exceed 120 days*), as follows:

a. Officers and enlisted personnel remaining in active service after 1

September 1946 will be entitled to compensation for amount of leave accrued as of 31 August 1946 in excess of 60 days. A credit of 30 days' advance leave as of 1 July 1946 is *not* allowed.

b. Enlisted personnel separated or retired from active duty prior to 1 September will be compensated for full amount of accrued leave, less leave taken. They will make claim for such compensation following their separation or release.

c. Officers being separated and beginning terminal leave prior to 1 September receive full terminal leave due in accordance with existing regulations and instructions.

On 1 September 1946 and thereafter all officers and enlisted personnel are entitled to accrued leave at the rate of 2½ calendar days per month, credited as of

last day of the month, not to exceed 60 days and must receive such leave prior to their separation or discharge.

Reenlistment furlough, heretofore granted as reenlistment bonus, is no longer authorized. Reenlistment leave may be granted not to exceed 90 days and such leave shall be chargeable against unused leave accrued during prior continuous enlisted service, or against leave which will accrue during the first year of future service, or both.

PAYMENTS

Claimants will be paid in cash and nonnegotiable, nontransferable, interest bearing government bonds maturing five years after date of issue. Designated as "Armed Forces Leave Bonds," they will bear the portrait of former Secretary of the Treasury Carter Glass, will be registered only in the name of the veteran, and will bear interest at the rate of 2½% a year until maturity, or until the date of payment if payment is made before maturity. For example, a \$100 bond holder will receive \$112.50 when it matures five years from the date of issue.

The bonds will not be payable until five years from their date, except in the event of the death of the veteran, in which event the bond may be redeemed immediately at the request of his survivors, as defined in the Act.

The securities cannot be transferred to anyone else or pledged as collateral for loans, nor can they be assigned except to the Administrator of Veterans Affairs in payment of certain insurance



premiums, under such regulations as the Administrator may establish. Once such privilege has been exercised, no further change may be made.

The date of issue, which will be shown on the bond, will be the first day of the quarter following the date of the particular veteran's discharge. The first issue date will be April 1, 1943, which will mean that the bonds will begin to mature, at quarterly intervals, on April 1, 1948. In the case of personnel on active duty after 1 September 1946, bonds will carry an issue date of 1 October 1946 and will mature 1 October 1951.

If the amount due the claimant is less than \$50 or if the claimant was last separated from active service before January 1, 1943, payment in full will be made by Treasury check. For amounts of \$50 and above, payment will be in bonds in multiples of \$25, with a check for the balance; for instance, \$200 in bonds and \$19 in a check for a \$219 leave credit. Exceptions will be made in the case of persons who have died since their separation from the service, and individuals who have become insane or otherwise adjudged incompetent. Payment will be made in full by check to the survivors or guardians of such persons.

The Leave Act placed a one-year limit on the time for applying for leave payments, but at the same time made it possible for the claimant to wait the maximum time and not lose on the maturity date of the bonds. All claims to be considered must be filed by September 1, 1947.

Payments will be made at the following pay rates:

- a. Former enlisted men, either in or out of the Service—pay rate in effect at the time of the last separation from active service as an enlisted man.
- b. Active duty personnel—pay rate in effect on 1 September 1946.

PROCEDURE FOR VETERANS

The following steps are recommended for veterans:

1. Obtain from any post office in the United States or possessions a form entitled "Claim for Settlement Unused Leave," and the instruction sheet which goes with it. Settlement forms are also available at Army Recruiting Stations.

2. Fill out this form, following the instruction sheet. If assistance is desired, it may be obtained at any of the 3,000-odd Veterans Community Information or Advisory Centers throughout the nation, or at the office of any State or County Veterans Service Officer.

3. Swear to or affirm the statements made in the form before a Notary Public or other civil officer authorized to administer oaths. The majority of the Community Information or Advisory Centers will provide this notarial service free of charge.

4. Mail the completed form, together with the Discharge Certificate or Certificate of Service for each period of service covered in the claim, to the appropriate Army, Navy, Marine Corps or Coast Guard paying officer listed on the reverse side of the claim form. The discharge certificate forwarded may be the original certificate given the individual at the time of his separation, a photostatic copy of this certificate, or a copy certified to be a true copy by a state or local official duly authorized to make such certifications. *Discharge certificates must be photostated on both sides*, since information essential to computation of the amounts due applicants is contained on the rear of the certificates. If the original discharge paper has been lost or destroyed, a Certificate in Lieu of Discharge, which will be considered as valid evidence for payment, will be issued on application to the appropriate one of the following agencies: The Adjutant General of the Army, 4300 Goodfellow Boulevard, St. Louis 20, Missouri; Chief of Naval Personnel, Navy Department, Washington 25, D. C.; Director of Personnel, Headquarters U. S. Marine Corps, Washington 25, D. C.; or Commandant of the Coast Guard, Washington 25, D. C. In the case of former Army personnel a form on which to apply for the certificate may be obtained at any recruiting office. Army and Navy paying officers suggested that before mailing the original discharge certificate, the veteran arrange to have at least one photostatic copy made for his own files. Many of the larger Veterans Community Information or Advisory Centers maintain photostatic plants where this service is provided gratis.



OF MORE THAN PASSING INTEREST

FAS Troops. School Troops at the FAS were recently reorganized under the 5th FA Group. Five FA battalions were redesignated to honor famous artillery units whose traditions and histories as well as numerical designations are inherited by the redesignated battalions: 2d, 17th and 18th FA Bns; 6th Armd FA Bn; 1st FA Obsn Bn.

Buzz Bomb Defeat. Inadequate publicity has been given the remarkable AAA defense against the continuous, 154-day, buzz bomb attacks against Antwerp, main supply port for both the 12th and 21st Army Groups. The facts: 2,183 buzz bombs were destroyed and only 211 fell on vital areas.

This Peaceful World. World scene one year after military victory in World War II—civil war in China, violence in India, something worse than jitters throughout Europe and the Middle East, and the U. S. press openly charging that Russia has replaced Germany as the world's number one bully.

Caste System? Mindful of the "sincere and intense interest" in their welfare and "lofty example" set them by 18 of their officer instructors, 92 non-commissioned officer students at the Inf School recently joined together in submitting a letter to the Commandant, setting forth their appreciation and commendation therefor.

Vet Population. U. S. veteran population is 17,240,000, of whom 3,966,000 served in wars other than World War II.

Mufti from Moth Balls. Recently authorized — the wearing of civilian clothes by officers and enlisted men now attending, or due to attend, courses of instruction at civilian institutions.

OCS Finale at Sill. The last OCS class (#179) has started at the FAS. Henceforth all OCS training will be at Ft. Benning. Started in July, 1941, over 25,000 graduated from OCS training at Sill. Not a few graduates attained the rank of lieutenant colonel.

STOP FIGHTING THE JAPS



By Capt. Leo B. Shinn, USMC

Republished by courtesy of THE MARINE CORPS GAZETTE

THE young student officer stood facing the instructor and gave his solution to the tactical problem which had been presented to the class and which he had been called upon to solve:

"Well," he began, "since the time is 1800, there isn't enough daylight left during which to continue the attack to the next hill. I believe I would have my whole battalion dig in where they are. I would pass the word that there would be no moving about whatever between dusk and dawn. That way, anybody who moved would be shot because it would be obvious that they were enemy. I figure that the enemy capability most likely of adoption would be a Banzai attack against my position sometime during the night—possibly just after dusk or just before dawn. I would take measures against this. I would then assign one company the job of providing one platoon to begin combing the battalion area at dawn the next morning for enemy snipers who had infiltrated our lines during the night."

The above solution, admittedly fictitious, is nevertheless typical of many that are being offered by students in our military schools *at the present*. Whether it is sound or unsound tactically is unimportant. It does contain certain provisions which are food for debate—as will be seen later. The important point, however, is that it illustrates the trend of much of our military thinking at the present, especially among younger officers. Today, almost a year after the cessation of hostilities in the Pacific—in our tactical reasoning, we are still fighting the Japs!

Written by a Marine for Marine readers—the principles underlying Captain Shinn's warning are meaningful to soldiers and sailors of all components of all services.

And we shouldn't be.

While this tendency is not exactly dangerous, some of its aspects are definitely undesirable. The habit of "fighting the Japs," which exists among instructors and students alike in many of our service schools, is obviously due to the fact that all of the tactical instructors and the large majority of the students have had combat experience in the Pacific. That it exists among students is apparent by observing the logic they often apply in solving a tactical problem. The majority of instructors, for reasons apparently more political than military, refrain from

using the word "Jap" in their discussions of "the enemy." In many of the situation and requirement type problems, however, the "enemy" all too frequently exhibits a "Banzai" nature, the habit of attacking and infiltrating our lines at night, and other characteristics which are unmistakably Japanese.

When faced with such a problem, it is second nature for the student to think of the enemy as being Japanese, to take advantage of his past experience in actual combat against the Nips, and to solve the problem accordingly. This trend of thought is also frequently apparent in our everyday "shop talk."

Not long ago, for instance, the author heard a Marine officer of field rank remark that he considered training in the camouflage of command posts and supply installations a waste of time. Having fought the Japs in fast moving situations where friendly air superiority was constantly taken for granted, that officer obviously had never seen a necessity for such training. He may in the uncertain future, however, be obliged to revise his opinion of the value of camouflage.

In the profession of war, there are certain tactical principles which change little, if any, whether the year be 1000 or 2000 A.D. and whether the war be with Mesopotamia or Mars. It is only the application of those principles



which alter, due to improvement of the implements of war, variations in terrain conditions, and changes in enemy tactical practices. In the war in the Pacific, as in any war, it was only natural that we should study continuously the enemy's national psychology, his tactical "habits," and his weapons. By doing this, we became more and more able to cope with him on the battlefield and the result was increased economy in personnel and materiel casualties. Furthermore, the practice of devoting a large part of the curriculum in our tactical schools to a study of the Japanese enemy and the most efficient means of defeating him was certainly sound practice while the war was still in progress.

As members of the military profession, we are inclined to remember vividly the tactics and techniques we saw applied in actual combat. Having seen them succeed repeatedly, they more or less become "doctrine" with us. It is good that we do this, and it is indeed fortunate that the large majority of our present Marine Corps officers are graduates of the school of actual combat. Unfortunately, however, we also have a tendency at times to forget that those tactics and techniques we saw succeed so frequently were being applied against a particular enemy, with peculiar characteristics, and under a certain set of conditions. We thus lose sight of the fact that what might have been the "ideal" way to cope with the Japs might be far from the most efficient way to cope with our next adversary.

The war in the Pacific provided our forces with a laboratory in which the science of amphibious warfare was immeasurably advanced and in which were developed many tactics and techniques which will be applicable to the amphibious war of the future, whatever the nature of the theater and the characteristics of the enemy may be. Some of those tactics and techniques, however, were born of and were applicable only under, the conditions which existed in the Pacific war but which may not necessarily exist in the next war. On the other hand, those conditions which existed in the war in the Pacific caused us to omit a number of tactical measures which may be of major importance against our next

enemy. Let us examine some of these conditions and note the influence that each exerted on the tactics we employed.

To begin with, our almost constant air superiority (in the latter stages of the war) gave infantry leaders little or no experience in defense against air attack.

The Japanese numerical and technical inferiority in tanks rendered it unnecessary for our infantry unit commanders to study or to utilize strong measures against a determined and well-planned enemy mechanized counterattack. This condition existed, in varying degrees, with respect to artillery and the other supporting weapons.

The Jap's habit of launching "Banzai" attacks and of infiltrating our lines during the night became familiar with practically every marine in the Pacific. The inevitable solution was for every American in the battle to dig in at dusk, remain motionless, and shoot anything that moved.

A condition which existed in the Pacific theater (and in the European) was the absence of gas attack by either friendly or enemy forces. As a result, the majority of us accorded very little importance to studying defense measures against gas attack.

Omitting infantry antiaircraft defense, camouflage, anti-gas defense, etc., from our tactics during the war in the Pacific was perfectly logical because there was no need for such measures. But to omit these subjects from our own personal tactical doctrines of the present and from the scope of our peacetime training is definitely neither logical nor sound. And that is exactly what we are inclined to do because, when we study a tactical problem or conceive a tactical situation, we subconsciously inject into it the same conditions under which we fought in the Pacific—including, in many cases, even the national psychology of our former enemy.

It is realized that amphibious operations of the future will, in all probability, be conducted under conditions of friendly air superiority when possible, and that many of the other favorable conditions will again exist. There is no certainty, however, that the enemy will not at least gain temporary air superiority occasionally nor that the other favorable conditions will not cease to exist now and then. It is almost certain

that our enemy of the future will use entirely different tactics and that his characteristics and national psychology will differ from those of the Japs.

We are therefore behooved to return as soon as possible to basic tactics and techniques which are general, rather than specialized, in nature and which can be modified to suit any set of tactical conditions. This is especially important during the present period of transition because the younger officers who are performing and undergoing instruction today will be the senior troop commanders of tomorrow. In view of this fact, they should now be absorbing a tactical knowledge which is broad and open-minded in scope.

In order to promote this policy, the following specific recommendations are offered, to be applied wherever practicable in all phases of tactical training to include our tactical schools, field maneuvers, and troop training:

1. Include an appreciable number of tactical problems (not necessarily the majority) in which the student is obliged to *attack* an enemy who has at least temporary superiority in aviation, artillery, tanks or other supporting weapons—or in several of them.

2. Devote considerable study to the possibility of night operations to include night attacks and especially to include night reconnaissance patrolling by front line units.

3. Give the student more training in camouflage, anti-chemical defense measures, and other aspects of war which were of minor importance in the Pacific war but which may be of major importance in the war of the future. Include tactical exercises in which he will be required to utilize this knowledge.

4. Eliminate, wherever possible, those place names, terms, and characteristics of the enemy which suggest that the student is fighting Japanese troops.

5. Provide the enemy with similar organization, with respect to personnel and materiel, to our own.

And finally, in our own tactical reasoning, let's cease thinking of the enemy as having those peculiar characteristics and habits with which we became so familiar in combat against our former enemy. *Let's stop fighting the Japs.*

FIRE CONTROL ON OMAHA BEACH

Written within a few days after the assault by Lt. (jg) Coit N. Coker, USNR, these observations were initially recorded in the First U. S. Army Artillery Information Service in July, 1944. Reproduced at the bottom of the page—in order to provide a background of clarifying information—are selected extracts from a First U. S. Army Report of Operations.

D-DAY

Naval Shore Fire Control Party No. 3 landed on the coast of France in three sections. It consisted of 2 officers and 12 enlisted men in support of the 1st Battalion, 116th Regimental Combat Team of the 29th Infantry Division.

The first section was the forward observer group, made up of Capt. John A. Easter, Sgt. Beverly K. Wren, T/5 Burt Krogstad, Pvt. William Holmes, and Pvt. Clarence J. Henson. This section landed opposite Exit D1 with Company B at 0700. Scheduled for the third wave, it actually arrived as part of the first wave.

The water was waist deep and at that time the beach was subject to murderous cross machine gun fire. Krogstad and Holmes were hit while still in the water, Krogstad succumbing after the fifth bullet wound. Holmes received two hits in the leg, and one in his abdomen; though seriously wounded, he managed to crawl onto the beach and was still alive when last seen by Henson. Capt. Easter received a bullet in the hip as he attempted to drag Krogstad out of the water. Wren was killed while attempting to cross the beach.

Pvt. Henson managed to get Capt. Easter ashore and to a partially protected part of the beach, despite the continuous fire of machine guns, 88's, mortars, and snipers. Capt. Easter and Pvt. Holmes were spotted and picked up later by the ambulance crew. Meanwhile, Henson brought many more wounded ashore to the protection of the rocky part of the beach. Later in the day he proceeded to the 1st Battalion CP at Vierville-sur-Mer (see map, opposite page) where he joined the naval liaison group.

The second section was the naval liaison group, made up of Lt. (jg) Coit

EXTRACTS FROM ARTILLERY ANNEX, FIRST U. S. ARMY REPORT OF OPERATIONS—20 OCT 43 to 1 AUG 44

NAVAL SHORE FIRE CONTROL PARTIES (NSFCP)

* * * *

Late in November 1943, information was received from the War Department that three trained and equipped Joint Assault Signal Companies (JASCO) with organic Naval Shore Fire Control Parties would be provided First Army. These JASCOs arrived in December, less NSFCP personnel and equipment. On or about 1 January 1944 the First Army Artillery Officer was charged with the organization, equipping, training and development of tactical doctrine for the employment of these parties.

Conferences were held with the Commanders and Staffs of Naval Task Force 122 and the 11th Amphibious Force to discuss the naval gunfire requirements for Operation Neptune and the proper employment of these parties. It was determined that the present NSFCP organization (T/O and E 11-1475, 21 October 1943) was inadequate, both in personnel and equipment; major modifications of this T/O and E were requested and approved. The Navy agreed to provide additional officers for field artillery fire direction centers and to equip all fire support ships with SCR 608 radio sets. The 4th, 28th and 29th Infantry Divisions contained field artillery officers and enlisted personnel who had had

some previous training and experience in the control of naval gunfire. These partially trained individuals, together with sufficient enlisted men to meet the requirements (selected from the various field artillery and signal units) were transferred to JASCOs.

An intensive and detailed training program was instituted. This program included classroom instruction, actual adjustment of the gunfire of the U. S., British, Canadian and Norwegian ships, radio practice, paratrooper qualification by certain personnel, employment of gridded oblique photographs, small scale amphibious exercises and participation in dress rehearsals. An officer of the Army Artillery Section devoted the major part of his time during the months of March, April and May to the supervision of the organization, equipment and training of these parties.

* * * *

ORGANIZATION FOR COMBAT

a. 1st and 4th Infantry Division—3 NSFCPs with each assault infantry regiment, and Naval Gunfire Liaison Officers (NGLO) with direct support artillery battalions and division artillery headquarters.

b. 29th Infantry Division—7 NSFCPs, with assault battalions. NGLOs, as above.

c. 2nd and 5th Ranger Battalions — 1 NSFCP, each.

d. 101st Airborne Division—Provisional Airborne NSFCP.

e. 82nd Airborne Division — 9 especially trained field artillery officers.

OPERATIONS

NSFCPs landed with infantry and artillery battalions according to plan. Although the casualties were high, the difficulties encountered did not exceed expectations. Upon landing excellent communications were established without delay and were maintained with the minimum of interruptions until the need for naval gunfire support no longer existed. Initial observation was extremely poor; targets were machine guns and sniper positions visible from the initial line of dunes. During the period H to H plus 4 hours, infantry was pinned to the beaches, necessitating air spot on inland targets designated by the NSFCPs. By the afternoon of D-Day all parties were ashore and functioning despite heavy losses in men and equipment; continuous Naval gunfire support was provided. The interchange of support ships was effected without loss of communications or accurate fire.

N. Coker, USNR, T/5 Thomas L. Kelly, Pvt. Harold Pincus, Pvt. Fernand J. Herbert, Pvt. Norbert Chausse, Pvt. Christian Hertkorn, and Pvt. Andrew Holoman. We landed with Capt. Hawks of Company C at about 0740, approximately one mile east of the scheduled landing place.

The ramp of the LCVP went down a foot and then stuck. Two Company C men were caught in it and I doubt that they were ever extricated. Another man had his leg crushed between ours and an adjacent craft. It was soon evident that our craft was sinking, and that the only means of disembarking was over the side. At about this time an LCI, perhaps 30 yards to our right, received a direct hit from an 88 and

burst into a geyser of flame; fortunately, there was no burning oil on the water.

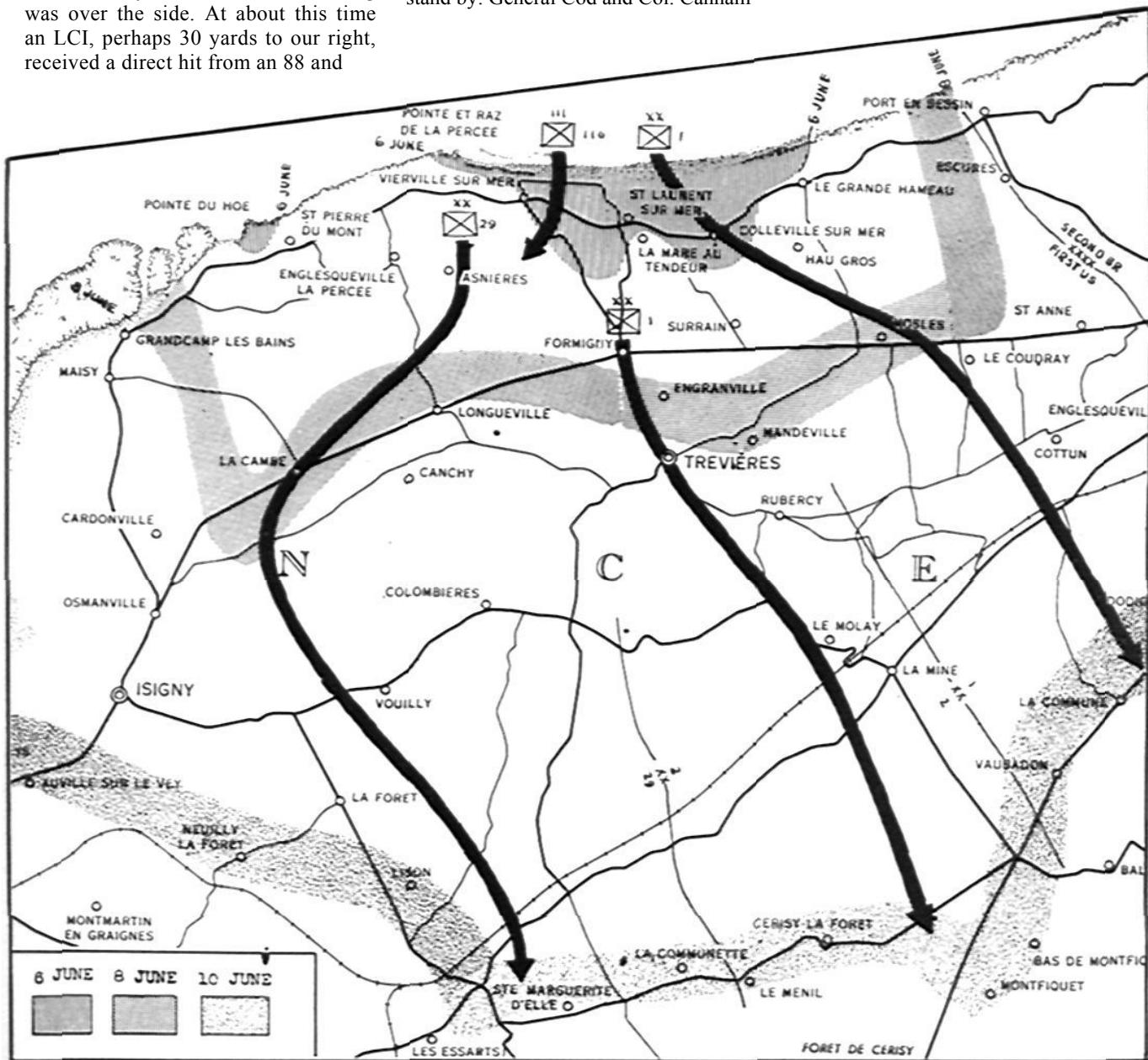
We jumped over the side, swam to shallow water, and made it across the beach to the protection of a log buttress, with neither casualties nor loss of vital equipment. This will always seem a miracle to me, considering the understandable confusion in the landing craft and our swim ashore with heavy equipment—all under the fire of 88's, machine guns, mortars, and snipers.

We had the SCR 609 operating by 0830, and were soon in contact with the destroyer McCook and told her to stand by. General Cod and Col. Canham

were nearby on the beach and I asked them if they wanted naval fire, but the beach situation at that time was so obscure and confused that it was unwise to designate a target.

I took Kelly with me on a scouting party up the beach toward D1 Exit in an unsuccessful effort to locate the 1st Battalion. On this trip an 88 burst nearby and a small piece of shrapnel struck my right knee cap causing a superficial wound.

We crossed over the remainder of the beach about 0930 and worked up the slope, under enemy observation and



fire, to the edge of the plateau on top. (Pvt. Hertkorn received a leg injury from flying mortar shrapnel which resulted in his being evacuated after we reached Vierville). Here we met Capt. Vavruska (NGFO of the 5th Ranger Battalion) and all of us joined with Lt. Vandervoort (1st Battalion) and his platoon, and commenced working toward D1 Exit.

On the plateau was a field of grass with numerous fox holes containing Germans. About noon it was decided to bring naval fire on this field, and to bring the fire well to the right (to avoid hitting ourselves) across DI Exit, which was not yet clear. The destroyer McCook furnished this fire. As fire traversed the Exit, the McCook radioed us that a party of Germans had emerged from the heavy concrete emplacements at the Exit and were waving a white flag. We radioed to cease fire, and the beach engineers took 30 prisoners when fire was lifted. We took three more prisoners, after tossing hand grenades into their fox holes.

A short while later my party got separated from me, when mortars started dropping close by, but a few hours later we were all reunited at the 1st Battalion CP in the northwest part of Vierville.

Before leaving the beach we had seen Capt. Easter, who was resting relatively comfortably, and Pvt. Henson. Henson joined with us that night at Vierville, replacing Hertkorn who had to be evacuated because of his leg injury. Of the many events during the hours when we were on and in the vicinity of the beach, the ones which stand out most were at least four occasions when mortars landed in spots we had just left, killing and wounding men with whom we had been talking only seconds before. Close to death on many occasions, I attribute our survival to the Lord, luck, and the fine spirit and levelheadedness of the men. Never again will any of us have to be told: don't bunch up; don't stay too long in one place; keep low; and take advantage of natural cover. I think all of us now believe in the efficacy of prayer.

The 1st Battalion had been hard hit. All the company commanders except Capt. Hawks had been killed, and the battalion strength reduced to little over half. Lt. Col. Metcalf, Major Dallas, and Capt. Flora were still intact. The battalion passed the night of D-Day on the northwestern outskirts of Vierville-sur-Mer.

D PLUS ONE

In the morning the battalion, joined by the 5th Rangers, proceeded in column down the highway to St. Pierre du Mont, encountering minor resistance from snipers and machine guns. It was not definitely known whether the 2d Rangers had been successful in capturing Pointe du Hoe and our mission was to effect or help effect this capture. At St. Pierre enemy artillery fire was directed several hundred yards ahead of us successfully interdicting the way to Pointe du Hoe. Intelligence from local inhabitants indicated this fire might be coming from prearranged targets No. 5 and No. 16, southwest of Maisy, and from target No. 87 at Orizueville en Bassin. Relaying through the McCook, I arranged to have the battleship Texas fire on any observed enemy gun emplacements in the Maisy area using air spot. This fire was delivered about 1300-1400 and the interdicting enemy fire ceased. I do not know how many rounds the Texas fired, but I do know that on this occasion and on all subsequent occasions when we called on the Texas to fire for us with air spot, enemy fire was silenced. I believe that air spot directed against artillery is doubly valuable in that (1) it provides deep observation into enemy territory, and (2) the mere presence in the air of spotting aircraft is enough to panic or silence enemy guns which are afraid of revealing their position.

As the battalion and Rangers attempted to move on to Pointe du Hoe they encountered enemy small arm opposition which seemed likely to develop into a counter-attack. We withdrew and formed defensive positions for the night in two hedgerow-bound fields in St. Pierre. The counter-attack never developed

further, but about 2000 the enemy began inaccurate intermittent artillery fire on the battalion position. Again I called on the Texas for air spot, this time in the Criqueville region (target No. 87). I also had the McCook drop a dozen salvos of unobserved fire in the same area. Enemy bombardment ceased.

D PLUS TWO

The 1st Battalion plus the 5th Rangers moved from St. Pierre to Pointe du Hoe in support of the 2d Rangers who had been pinned down there for two days. There was no opposition until we actually got out on the point and were dispersed in bomb crater positions. Then quite a bit of hell broke loose in the way of friendly as well as enemy mortar, small arms, and tank fire. Shrapnel was flying freely. Our 609 and 284 were both set up: the 609 was in communication with a ship (I don't know its name but its call sign was RAH) which had relieved the McCook; the 284 in contact with Lt. Clark at the 111th FA Battalion Fire Direction Center for the first time. The remnants of the 2d Ranger SFCP were still firing. Capt. Harwood (FO) had been killed and Lt. (jg) Norton (NGLO) injured and evacuated. I volunteered our fire power to the 2d Rangers but they had no need for us, so until it became necessary for us to close down and move position we merely maintained contact with the ship and with Lt. Clark, passing intelligence on to both. After a while things quieted down and the 1st Battalion proceeded to a point on the road about 1,000 yards northwest of au Guay where all three 116th Battalions assembled in preparation for an advance toward Isigny. The Rangers and 2d and 3d Battalions planned to advance to the right and the 1st Battalion to the left via Maisy.

Being the only shore fire control party immediately available, I offered our support to the 2d and 3d Battalions and also suggested to Col. Canham that he use us to fire on Grandcamples-Bains and a suspected enemy OP in the church at the east end of town.

Col. Canham approved, so we proceeded on a Sherman tank to an OP several hundred yards up the road. From here we directed about 16 rounds of observed fire and two 1-minute rapid fire barrages (about 64 rounds) traversing the water front. I then requested two minutes of unobserved rapid fire on the town of Maisy.

When I returned from the OP, Capt. Vavruska of the 5th Rangers had set up and was firing on the church again. The 1st Battalion was on the way to Maisy and according to Col. Canham had encountered stiff resistance in that sector. He agreed to a suggestion that one hour's intermittent fire be placed on Maisy and said that he would notify the 1st Battalion of this fire. Approximately 144 rounds of unobserved intermittent fire were placed in Maisy area between 1500-1600 hours. Meanwhile our party caught up with the 1st Battalion outside of Maisy, after hitching a ride with cannon company's vehicles.

Maisy had been well rocked by the intermittent fire and had been evacuated, except for one machine gun emplaced in the church steeple, which was knocked out by Browning automatic rifles and rifle grenades. However, when the forward elements of the battalion passed the church and reached the main crossroads of the

town the enemy dropped a 2-gun artillery salvo right on us. I was cut off with a platoon commander and some 40 men. We dispersed down a dirt road, lined on either side by evacuated enemy entrenchments, toward the coast. Obviously the enemy had observation on us because his artillery followed our small group all the way down the road. Fortunately we suffered no casualties.

Retracing our steps back to Maisy, we rejoined the battalion on the road just south of town. Enemy artillery shifted onto us again here, one heavy caliber weapon probably firing from Isigny and the other light caliber weapons apparently from vicinity of targets No. 16 and No. 108 about 1,500 yards south and southwest of Maisy.

Again the battalion dispersed to cover under this artillery fire which left Col. Metcalf, Major Dallas, Capt. Flora, Pvts. Henson and Holoman, and me by ourselves on what was now the "OP position." Henson and I set up the SCR 609 but could not get either RAH or the Texas. The only station we could get in contact with was LBLI which was in contact with LBL, later discovered by us to be the British cruiser Bellona. I asked LBLI to relay a fire mission via LBL to the Texas, and asked for air spot on any enemy artillery seen firing in the vicinity of Osmanville and Isigny.

We were working under combined difficulties at this point—isolated from the remainder of the battalion, exasperatingly bad radio communications, and enemy shrapnel falling about us. Despite our best efforts, we were finally forced to close down and return to the battalion which had reformed and taken defensive shelter in abandoned enemy entrenchments on the southern outskirts of town. When we reopened, the Bellona was calling us direct and said they were now assigned to us, and that the Texas was going to fire a barrage on Isigny for us. The Texas laid two heavy barrages on Isigny about dusk leaving the town ablaze.

I believe that without the naval gunfire which we placed on Maisy, the 1st Battalion would have had extreme difficulty in taking the town and, at the worst, might have been led into a trap. This belief is based on several facts. The battalion encountered heavy opposition in its approach to Maisy, and there were many entrenchments in the vicinity of the town which had been evacuated, evidently very recently. The town itself had been completely evacuated with the exception of the one machine gun nest. Artillery pieces which had probably been in the area were no longer present, evidently moved to the south toward Isigny.

RELATIONSHIP WITH SUBORDINATES

...the words of the book are hard to beat.

The leader should adopt a sensible and natural attitude in dealing with his subordinates. It is always a grave mistake for a leader to try to gain popularity by undue familiarity, coddling, or currying favor, because it is an inescapable fact that intimate association between leaders and those they lead tends to destroy discipline and lower prestige. Enlisted men

understand and appreciate the reasons and necessities which prevent undue familiarity with their leaders and have little but contempt for the officer or soldier who, forgetting his own place, deliberately crosses the dividing line reserved for the other. The wise leader will walk the line between friendship and familiarity, and at the same time be parent, brother, and father-

confessor to his men. It has been said that "a good leader has the patience of Job, the loyalty of Jonathan, and Martha's willingness to serve." However, this is never a one-sided relationship, because experience has shown that if the leader will take care of his men, they will take care of him.—FM 22-5.

OUTWARD AND UPWARD

Our new Army is going to have one Artillery Corps. Are we Artillerymen—*all of us*—thinking outward and upward? Strange, if we are, is our continuing inarticulateness in the field of guided missiles—at least as far as this JOURNAL is concerned.

Gunnery is the science of the flight of projectiles. What is a projectile? Nowadays, and in lay soldier talk, it is something that is tossed from one point and goes "boom" when it reaches a predetermined target. Tossing projectiles is the Artilleryman's business.

Confusing is the Air Force's nose dive from the dizzy heights of "Severskyism" faith to a very earthy scramble for control of what appears, in logic, to be an artillery function. Do foresighted airmen see handwriting on the wall?

This JOURNAL has no quarrel with the Air Forces, and competition is healthy—no doubt of that. We're all on the same team, all seeking security for this Nation. This JOURNAL submits, however, that in addition to perfecting conventional techniques *all* Artillerymen must project their thinking outward and upward. Otherwise, we redlegs may awaken one day with very red faces to find that the airmen have side-slipped right down to earth and carved out for themselves an important slice of our role as gunners.—Editor.

GUIDED MISSILES ARE COMING

By Lt. Col. William R. Kintner, GSC

Republished by courtesy of THE COAST ARTILLERY JOURNAL

EDITOR'S NOTE: *The opinions expressed in the following article represent the author's and its republication in THE FIELD ARTILLERY JOURNAL does not imply War Department indorsement.*

It is only proper for military men to take stock of their profession after a war. Tactics, weapons, organization and doctrine all must come under the scrutiny of critical review to determine the sound designs or concepts which will insure our nation's future military security. The last war introduced new weapons whose capabilities have caused consideration to be given to making changes in the very basic structure of our defense system itself.

The atomic bomb is in the forefront of these weapons. Its terrifying impact on the human mind is such as to obscure certain other developments whose effect on the art of war may prove as profound. Basically, the atomic bomb is an explosive medium more lethal than anything ever imagined. However, in spite of its

earth-shattering power the offense must still devise ways of getting the atomic explosive to the target. Likewise, the historical requirements of the defense continue although its execution grows more complex. Psychologically, the defense will be forced to drop the *laissez faire* attitude of the football lineman, who can let an occasional ball carrier slide through and instead, accept the final responsibility of the quarterback, who must stop them all.

Into this historical offense-defense struggle has been introduced a weapon which may reshuffle the technique of warfare more than the atomic bomb—the guided missile. The eventual development of the guided missile into a proven weapon will have a tremendous effect on airplanes, artillery and most important of all, on the relation of all types of surface forces to aerial forces.

It is neither possible nor permissible to discuss the technical specifications of these weapons nor to speculate as to

when any particular variety will be ready for employment. However, it is profitable now to discuss imaginatively some of the general characteristics guided missiles may later possess.

Popular fancy envisions development of some mammoth rocket whose single atomic explosion will wipe out entire cities. Although this may be, unfortunately, the final outcome, common sense dictates the evolution of intermediate types, each tailor-made for a particular job.

We shall likely have guided rockets perform the tasks now accomplished by tanks, artillery, and planes. We can contemplate rockets assuming the role of strategic bombing and close-support artillery. Economics and warfare often run counter to each other but it is a safe promise that we will not use these guided missiles on any wide scale until they can do the job as cheaply as the weapons they supplant. Nor will development be simultaneous on all types.

These factors demand that we plan for the transitional phase between current warfare and the Buck Rogers edition.

What design details must be considered in the various models of guided missiles? The essential tactical elements are: size, fusing, speed, duration of flight, control and method of launching. Upon the missiles' size will depend the explosive force. The size must vary according to the weapons' use. Existing proximity fuzes will meet the likely needs of ground-to-air defensive missiles as well as many types of ground-to-ground projectiles, but further fuze development may be necessary for some rocket uses.

There should be wide variation in the speed of these missiles. This factor is closely related to control; for certain uses we may desire visual selection of targets and direction of missiles which will require that they fly slowly enough to be seen. Duration of flight will depend upon the type of propulsion used. It will determine the range of use as well as the manner of use. Development here is concerned with mechanics of propulsion and fuel research, upon both of which ultimately depend over-all efficiency and economic feasibility of the weapon. Control has several aspects. These are: predetermined course, positive control from launching or forward pickup stations and homing control in which the hapless target determines its own destruction. Combinations of types of control might be desirable. Launching arrangements will largely determine the mobility of the weapon and will differ greatly between close and strategical support weapons. Fuel for mobile close-support weapons must be made insensitive to handling.

For execution of the antiaircraft mission it will be necessary to develop several types of ground-to-air missiles. The first targets, in the transitional stages of development, that guided missiles will engage, will be prototypes of present planes. Current air forces deliver a relatively fast low-level attack and a slower, more concentrated dose at high altitudes. These targets are now engaged by automatic weapons and AA guns.

Suppose you could have sent up a guided missile toward a *Luftwaffe* hedgehopper. What would you have wanted for the job? This missile should

travel at a speed of at least two hundred miles per hour faster than your target. This missile should have a short maximum time of flight. The projectile should be easy to handle and should be launched from a highly mobile launcher. In event its proximity fuze is not fired by the target the projectile should automatically seek altitude during the last three seconds of its flight and be exploded by a self-destroying fuze when the fuel gives out, to prevent injury to friendly forces.

This projectile will be radar controlled. It will be launched roughly in the direction of the target and the control beams will be visually directed from the ground. When within 200 yards of the target it would be desirable to have the missile guided by waves reflected from the target so that the projectile would invariably home on the target. The control radar should be compact enough to be carried in a light trailer. Present AA warning systems with modifications would be adequate for the employment of this mission. The appearance of a proved guided missile having these characteristics might well eliminate the present defensive employment of tactical air forces.

To destroy the high-flying bombers, several types of guided missiles could be employed. Against small-scale attacks a projectile capable of individual direction against an individual bomber should be used. Such a projectile should have a strong explosive charge fired by a VT fuze at close range. The guided missile should travel at supersonic speeds and be capable of sustained flight for the entire period of interception. The complete projectile should be crew serviced and should be fired by a launcher towed by a conventional truck. It should be exploded by a self-destroying fuze when its fuel supply is exhausted. It will be fired toward the roughly predicted position of the target. The target will be radar tracked. The missile will be radar controlled from the ground. It may be desirable to employ a homing device to the missile to become operative within close range of the target. This type of missile would defend small-area vital objectives in a manner equivalent to present AA gun battalions.

Against large - scale high - altitude bombing attacks, another variation in guided missiles should prove to be successful. Basically, the answer to the mass-attack defense problem is to saturate the air volume through which the flying armada passes with enough explosive to destroy a decisive proportion of the formation. This guided missile should be capable of setting off an appropriate atomic explosion in the target area. The explosive would be fired by a proximity fuze. These projectiles should be capable of being fired in great numbers. Upon reaching the target area each projectile would initiate a search. Homing radar may be used in conjunction with this search system. The missile should be capable of long-range interceptions. It should have a high approach speed and a lower speed during search.

Launching sites would be set up at wide intervals throughout the defended zone. The duration of flight should be several minutes. The complete missile should not have excessive weight. This missile will be radar-directed from the ground to a point above the center of the bomber formation where it will begin to execute an expanding spiral downwards until the proximity fuze is exploded. Launching installations would be static, hence their weight would be immaterial. Present warning service, if refined and improved, would be adequate for this type of missile although adequate communications and control tactics at launching sites would have to be developed.

Concurrently with the evolution of guided ground-to-air missiles we must plan for the offensive employment of ground-to-ground missiles and the defense against them. The advance of technology has already opened the race for supremacy in this field.

What are the prospects of using guided missiles in place of present Field and Coast Artillery? Ultimately, it is the opinion of the writer, they are quite good. In Coast Artillery, the combination of great range, along with launching guidance and homing control would prohibit enemy naval operations comparable to our own fleet's recent strikes off the Japanese shore. The advantages of greater flexibility, ease in massing fires over wide sectors of the front and

the elimination of costly, cumbersome rifled guns all indicate substitution of guided missiles for present Field Artillery. The dramatic power of rocket projectiles displayed in the recent war indicates how effective they might be, once proper fire control is achieved. For this type of employment the launcher must be highly mobile. Ranges throughout the battle zone would be acceptable.

Missiles should have devastating explosive charges. Fuze should be either VT or delayed-action. Predetermined, set course control will probably be satisfactory for most missions.

It is unlikely that any defense other than superior fire will be developed against short- and medium-range guided missiles used in ground support. On the other hand, the long-range guided missile will have flight characteristics which might make interception possible. A defensive guided missile will, of course, be the answer to combat it. This defensive missile should have a speed greatly superior to the attacking missile. It will be positively launched and directed by radar all the way to the target. This will require a combination pickup and missile-guiding radar superior to present sets. Radar will have to discriminate by coded signals between our own and enemy projectiles. Upon pickup of the hostile missile, the radar-director must position the launcher accurately in future elevation and azimuth in order that the defensive missile can follow the shortest time straight-line course to point of interception. Launching sites will be positioned so that interception courses against targets coming from the enemy lines will end over the enemy lines. The missile should have sufficient range to permit it to traverse the enemy lines where its explosion would not be wholly wasted if it did miss the interception. The complete missile for this purpose should be readily handled by one man and the accompanying radar and launcher should have full mobility.

Fantastic, destructive long - range rockets have come closer to achieving operational success in this war than any other type of guided missile discussed. The ground has already been pioneered to produce the most destructive weapon

ever made. This weapon is likewise, due to its inherent speed and altitude, the most difficult to defend against. Offensively its characteristics are fairly apparent. It will have a vast range, an impact probable error of a few miles, an atomic warhead, speed of from 3,000 to 4,000 miles per hour and a high payload in relation to projectile weight. It should have predetermined, course-set control, with radar correctional features to overcome trajectory errors in flight. These specifications are quite arbitrary, but may be considered reasonable in view of what is known of rocket possibilities.

To oppose this device we will need another rocket with a shattering explosive charge, a speed far faster than the offensive missile and a great intercept range. Control will be by ground radar until the interceptor is close enough for its own radar (sender and receiver this time) to take over.

Both the employment of this super rocket and the organization of the defenses against it will be on a continental scale. Warning radar will have to be greatly refined in range, sensitivity and ability to discriminate between targets. Warning stations and launching sites will have continental dispersion. Elaborate and positive communications will hook all sites into central control rooms. Interception missiles will have to be launched toward actual intercept points. Control of intercepts will be by coded radar signals. Electronic calculators will have to be designed to instantaneously select the priority targets in mass attacks and to allocate defense to most effective launching sites.

Radar, used both offensively and defensively, will have to be developed to a minute degree. Defensively we will seek to break down the enemy's control beam and break through the interference his missiles will generate to confuse our interceptions. Offensively we will want to have unimpeded positive control of our offensive weapons. We will need to develop intelligence missiles to cruise over disputed territory, simulating a regular target to record enemy radar sites so that we may utilize tactical ruses and feints to confuse the enemy's radar guided defense.

It is believed that certain general postulates can be made. The first is that the successful development of guided missiles may mean the eventual elimination of the present type of air force. Obviously there would be no need to send a piloted aircraft to do the same job that a rocket could accomplish without risk of life. Air force interception of supersonic projectiles is practically out of the question, for even if a suitable plane could be developed it is not likely that human responses would be rapid enough for interception. Nor is it likely that the human body could withstand the associated accelerations. This leads to another premise equally apparent, namely, that the agency responsible for the offensive development and use of guided missiles must closely coordinate its program with the agency charged with the defense against them.

At the present time Antiaircraft Artillery is charged with determination of military characteristics and is assisting the Ordnance Department in the development of ground-to-air missiles whose sustenance in flight depends primarily upon momentum. The foregoing discussion of the capabilities of guided missiles and the effect their development will have on current weapons is pure speculation. This speculation is based on existing technical discoveries and the astonishingly accelerated application of science to weapons. It is important to consider that all these weapons may come to pass. The imminent possibility of the arrival of guided missiles must influence all military planning especially in relation to aerial warfare. The proved guided missile may render the piloted aircraft impotent in either defensive or offensive warfare. It is possible that the piloted aircraft may find itself relegated, at best, to an exclusive role of troop carrier, reconnaissance and photographic missions.

Seacoast and Antiaircraft Artillery have always dealt with the highly involved control and warning system and complex directional equipment required to quickly destroy fast-moving targets. The long experience required by these artillerymen can be profitably used in coping with the manifold problems the employment of guided missiles will create.

*In Vain Do They Seek A Defense Against Lightning**

By Lt. Col. Albert J. Weinnig, CAC

Republished by courtesy of THE COAST ARTILLERY JOURNAL

IS THERE NO DEFENSE against the V-2? Responsible American citizenry, both lay and professional, sink deeper and deeper into an abyss of frustrated meditation when they are assured of the potentialities of the German rocket projectile (V-2) armed with an atomic warhead. They sense complete ruin and devastation not only of civilization but of humanity itself—unless a positive means of defense can be devised. Authoritative thought on the problem is represented by a collection of articles in the recent publication *One World Or None*, especially that of Dr. Louis N. Ridenous who, like the ancient Roman, Publius Syrus, writes under the title of "There Is No Defense." I cannot ascribe to the dismal (although perhaps realistic) views of most professional thinkers of an impending cataclysm, but I do think that it is highly proper for antiaircraft people to consider how they will fit into the scheme of national security in the light of new methods of warfare and to seek out probable developmental trends in antiaircraft material.

"PUSH-BUTTON WAR"

By far the most absorbing study is the general conception of the "push-button war." It is interesting because all of the problems are solved simply by the easy statement that our scientists can develop this or that gadget of extraordinary characteristics. As representative of the age of push-button war, we visualize a world around which are revolving an undetermined number of rocket satellites armed with atomic charges. It is an unfriendly world, keyed for instantaneous counterattack, sensitive to slight rebuke and insults and triggered to cascade complete devastation on a neighbor at the slightest affront. Civilization, having "progressed back" to the age of cave

EDITOR'S NOTE: *Colonel Weinnig has been AAF Liaison Officer with the Navy since October 1945 and for the purpose of working with the Navy's Guided Missile Project at Johns Hopkins University. This is the project with the code name "Bumblebee."*

dwelling, has sought protection underground. It is an age of the political-scientist and scientific-militarist, of universal television and radio telephony, of world-wide radar coverage and perhaps of interplanetary travel. Man's use of atomic energy has advanced from the present beginning of initiating destructive atomic fission to the state where he can control and use the energy which the atom releases as it is dismembered. This means tremendous power and the logical development of the long-heralded death ray or destructive beam. This, however, is a situation beyond my belief. I believe, perhaps ideologically, that man will have either devised a social order which outlaws war or that being impossible one strong nation will impose a world-wide peace by force.

The above thoughts are not founded on present scientific achievement or attainable objectives but are philosophical thinking (crystal ball gazing) pure and simple. However, they are valuable in any attempt to assess the role of the antiaircraft people in the distant future.

ROLE OF ANTIACRAFT IN THE IMMEDIATE FUTURE

Antiaircraft artillery will play an important part in our plan for national security in the peacetime era. In order to visualize this role, one must make an estimate of the situation—an operation which is in itself fraught with pitfalls as it is based upon calculated guesses. It concerns such unpredictables as the ambitions of the nations of the world, the American public, the size of the postwar

armies, military legislation by Congress, and the use of the atomic bomb. All too often in the past, the planners were prone to prepare for the future defense on conditions that existed at the last phase of the preceding war. Fortunately, wise publicity has impressed us all with our present weaknesses.

I believe that the antiaircraft defense in the immediate future must cope with the high-flying, globe-circling superbomber of the B-29 type which will attack with atom bombs in numbers designed to saturate the antiaircraft and fighter defense. I do not believe that missiles of the German V-2 type will be a threat to the United States in the near future. Their range is relatively short (200 miles) and cannot be increased with present means of propulsion without the missile losing the characteristics which make it invulnerable. The Germans had planned on using a long-range V-2 missile against the United States, but this had wings which decreased its speed and introduced largescale aiming errors. Our objectives for the present must be the improvement of conventional antiaircraft weapons and the development of a ground-to-air guided missile which will enable us to secure the 100% destruction of improved aircraft.

INDICATED TRENDS FOR CONVENTIONAL ANTIACRAFT ARTILLERY

One needs only to study carefully the sagas of two antiaircraft campaigns of World War II to discover the indicated developmental trends in antiaircraft artillery in the immediate future. One story concerns the successful engagement of the V-1 by the antiaircraft defenders of London and Antwerp; the other is the frantic all-out effort of the German antiaircraft to drive the American Air Force from their targets. The German effort and experience will probably

*Maxim 835 of Publius Syrus, 42 B.C.

exert the greatest influence on future antiaircraft trends in our Army as our problems of antiaircraft defense will very likely be the same as those which confronted Germany in 1944 and 1945. After studying the above campaigns (and avoiding the complex study of necessary organizational changes), I believe that the following lessons should be learned:

1. The mission of antiaircraft is the 100% destruction of enemy aircraft and long-range guided missiles. The deterrent mission must be discarded because of the demonstrated determination of the aviator to press home an attack regardless of losses and because of the advent of pilotless guided missiles.

2. Early warning must be improved. Range of radar coverage must be extended perhaps by means of the so-called stratoliner type of flying antenna to overcome line-of-site difficulties. Dissemination of information must be made instantaneous and widespread to the individual organizations.

3. A positive means of recognition must be developed. The system must be simple, foolproof, secure, and adaptable to combined and joint operations. This might require the development of "gadgetry" based on an entirely new principle, or more probably, the coordination of all the present methods of recognition.

4. Gun-laying radar must be improved: it must be developed for automatic weapons firings; it must have improved early warning characteristics; it must be fully automatic in tracking (azimuth, elevation and range); it must not be susceptible to jamming.

5. Fire control centers must be standardized and must incorporate the latest wizardry in electronics and mechanics to assist the antiaircraft commander in fire direction and control.

6. Heavy guns and gun fire techniques must be further developed to a high degree. This means: (1) higher muzzle velocities (5,000 ft./sec.) and higher ceilings (60,000 ft.) to cope with higher speeds and altitudes; (2) higher rates of fire; (3) automatic loading, tracking, and laying; (4) experimental and mathematical analysis of characteristics of equipment to develop optimum rules of fire. Field chronograph and field recording units must be

developed. The chronograph should be integral in the gun-radar of each battery; muzzle velocity could be timed on cathode ray tube perhaps receiving impulses from the travel of the projectile in the gun tube.

7. Directors must be improved to include: (1) prediction on a curving course; (2) decreased settling time; (3) reduced time for prediction.

8. A computing device which is capable of furnishing firing data to a large number of dispersed batteries from a central location is a necessity. This will probably require the development of new relay systems for transmitting data.

9. The caliber and range of automatic weapons must be increased and the volume of fire augmented by increased rate of fire or by multiple mounts. They must be directed by radar and able to engage successfully hedge-hopping attacks that usually evade early warning radar devices.

10. The fusing of antiaircraft projectiles is already being improved. The new projectile must be equipped with a combination of VT (proximity), impact and time fuzes.

11. The field of antiaircraft explosives and fragmentation must be thoroughly investigated. Latest developments indicate the prospects of more powerful explosives, shaped charges, and pattern-fragmentation by means of grooved projectiles.

12. The searchlight must be modified for night work with the automatic weapons against low-flying aircraft.

13. The development of a ground-to-air antiaircraft guided missile with an increased effectiveness (25 to 50%) must be stressed.

NOTES ON GUIDED MISSILES

The antiaircraft weapon of the future is the ground-to-air guided missile. While it is imperative that we improve conventional antiaircraft artillery as I have outlined, nevertheless, the antiaircraft weapon of the type we know today is dated. The increased speeds of aircraft and the phenomenal speeds of rockets make an impossible problem of prediction for a projectile of unalterable trajectory. It is evident that the antiaircraft projectile of the future must

be capable of guidance in flight. A guided antiaircraft missile is a revolutionary development and probably will be slow. Its first role will be a supplementary one, probably the engagement of high-flying attacking aircraft before they can enter into the range of ordinary weapons. The first missile will be complex, bulky, with slow rate of launching and guidable only at high angle of elevation; however, the indications are that a ground-to-air guided missile will be perfected. The time scale of development is anybody's guess. It is not too early though to start talking about them, because general familiarity will help to speed development.

MISSILE

From what we know of German missiles the components of a guided missile are (1) The launching system; (2) A propulsion or motor unit; (3) The body or frame of the missile; (4) The guidance system; and (5) The warhead.

Each component necessitates a major research program in a particular field which is separate and distinct from the others. This is so much so that perhaps the biggest problem will be the integration of the various components when successfully developed into a successful missile. It is practical to consider the launching systems and warhead as tactical accessories whose specification will be relatively easy to achieve. The development problem looms darkest in the propulsion and guidance systems.

GUIDANCE

As the speed of attacking aircraft increases, the ability to control and direct missiles in flight becomes more and more important. In fact, the future of antiaircraft depends on the successful development of a system of guidance. Unfortunately, the guidance of a projectile type missile in flight presents problems that can discourage even the most intrepid scientist.

The objective is difficult to attain; we must develop a system that can automatically alter the trajectory of a supersonic missile in flight so that the missile is brought into such proximity to the target aircraft that the probability

of a "kill" is assured in many instances (lethality of 25 to 50%). In order to appreciate the magnitude of the development problem, it is desirable by way of introduction to describe the basic functions common to all types of guidance systems. After the initial detection of an enemy aircraft, three functions must be performed by the guiding system of the firing unit, namely: *tracking*—the continuous following of the aerial target and of the missile to be guided; *computing*—the analysis of the behavior and relative positions of the aerial target and the missile in order to determine what alterations in course are required of the missile; and *directing*—the transmitting of intelligence to the control mechanisms in the missile. These functions are not new to the antiaircraft artillerymen as they are very similar to the functions of present fire control equipment; however, the task of tracking the target and guiding the missile after firing has never been attempted before. It is this latter phase of the guidance problem to which the antiaircraft artillerymen must be introduced.

There are a variety of systems of guidance that might be explored for possible adaptation to an antiaircraft missile. Only the possible systems are listed, although many other systems are available; however, they are obviously unsuited for the specialized work of antiaircraft. Possible systems are as follows:

- (1) Pre-set control (present prediction system using directors)
- (2) Interception
- (3) Beam Rider
- (4) Homing
- (5) Combination of (2), (3) and (4)

INTERCEPTION

The interception system, sometimes called *Direction by Commands*, involves a control system which attempts to *direct* the missile to a predicted future position of the aerial target. The position and behavior of both target and missile must be known at all times, that is, target and missiles are tracked separately. A ground computer is necessary to predict the future point of interception and to determine the commands that must be sent to direct the missile to the point of interception. These commands must be

determined by a specific missile and if more than one missile is employed, each must be identified, tracked and directed individually. Because of this serious limitation in traffic handling capability, the system can be easily saturated by an aerial attack in great numbers. However, the system has many distinct advantages: it is flexible and can be adapted to a ground-to-ground role very easily; it is accurate; it permits the use of the optimum course for interception; and, perhaps the ability to engage several targets simultaneously can be improved by automatic devices.

BEAM RIDER

The "Beam Rider" is the system in which a "path" is indicated and moved in space and the missile automatically "climbs" in the indicated direction after being launched. The path in which the missile must travel is a beam of some sort, radar, light, infrared or possibly sound.

The missile must be launched into the beam or directed into the beam after launching. Once the missile is in the beam it is forced to fly up the beam by a "brain" mechanism which generates error-signals as soon as the missile is off the beam axis and automatically and continuously actuates aerodynamics surfaces until the missile is again flying a stable course in the center of the beam. A Beam Rider of the radar variety possesses many superlative characteristics for antiaircraft adaptation: (1) a single radar might be used to search, detect and track the target, and also serve as the beam for guiding the missile; (2) the beam can accommodate a large number of missiles simultaneously; (3) its range is adequate; (4) it obviates the need of a computer. It has certain inherent disadvantages, such as, possibility of jamming, curvature of earth restrictions (line of sight), and the missile must carry a maze of complex equipment.

HOMING

Homing is that system of guidance in which the missile directs itself to a collision with the target by being able to distinguish the target from its background. The missile is forced to "seek out" the target. As a compass needle must always try to align itself

with the magnetic pole, the homing missile is irresistibly attracted to the target which it "sees." It is this ability "to see" which limits a homing system to short ranges and to operational uses based upon special characteristics inherent in the target, such as the target's ability to deflect radar or light waves, to radiate heat or to emit sound.

Homing by radar devices seems to afford the best possibilities at the present, although the Germans were well along in the successful development of "seekers" based upon the infrared and photoelectric principles. For antiaircraft adaptation the radar "seeker" has the necessary range and is aided by the ease of distinguishing the target against the sky.

Guiding by homing has the advantages of requiring no attention after being locked on a target and its traffic capability (number of missiles) is limited only by the remote possibility of mutual interference. The disadvantages of a homing device are that its range is short and that excessive accelerations might be required by an unfavorable approach to the target. The latter is especially true at supersonic speeds.

PROBABLE ANTAIRCRAFT GUIDED MISSILES

As has been stated before in this article, conventional artillery as we know it today is dated. Its official demise is probably more than a quarter of a century away but as the guided missile goes through the various stages of development, it will be able to perform more effectively the role now performed by conventional artillery. Eventually, the guided missile will supplant all antiaircraft cannons with the possible exception of the short-range, automatic gun.

The antiaircraft guided missile will first supplement the gun by being able to destroy the high-flying (60,000 ft) aircraft at relatively long ranges (30,000 yds.). This missile probably will be a solid or liquid fuel missile of the beam-rider type equipped with homing device and with a probable effectiveness of 25% in destroying every target engaged. Any statement by me of a time scale would be crystal ball gazing at its worst.



For Heroism and Service



DISTINGUISHED SERVICE MEDAL

Brigadier General DOYLE O. HICKEY, for exceptionally meritorious and distinguished services in the performance of duties of great responsibility September 1944 to April 1945. (This award supersedes the award of a bronze Oak-Leaf cluster to the Bronze Star Medal to Brigadier General Hickey, for services from 26 February to 7 March 1945, as published in General Orders 35, Headquarters 3d Armored Division, 14 March 1945.)

Colonel A. ROBERT GINSBURGH, for exceptionally meritorious and distinguished services in the performance of duties of great responsibility during the period October 1943 through May 1945. (This award supersedes the award of the Legion of Merit (Oak-Leaf Cluster) to Colonel Ginsburgh, for services from 23 November 1943 to 1 December 1944, as published in General Orders 77, United States Army Forces, Far East, 13 April 1945, and the Bronze Star Medal, for services from 26 September to 20 October 1944, as published in General Orders 12, USASOS, 24 January 1945.)

Colonel RICHARD P. HEPPNER. As Strategic Services Officer, China Theater, from December 1944 to October 1945, he achieved conspicuous success in gathering information of great operational value. His outstanding accomplishments in a position of great responsibility reflect the highest credit upon himself and the armed forces of the United States.

Colonel GEORGE A. A. JONES, for distinguished service in the Southwest Pacific Area, from December 1944 to January 1945 and from February to September 1945. Serving as Assistant Chief of Staff, G-2, Eighth Army, he supervised and executed the procurement, evaluation and dissemination of intelligence incident to the strength, disposition and possible effectiveness of enemy forces in the Visayan Islands, Mindanao, Luzon, the Sulu Archipelago, and in Japan. Due in large measure to his analytical ability, our forces were employed with maximum effectiveness in achieving the element of surprise

throughout a rapidly executed series of successful amphibious operations.

Colonel LEWIS F. KOSCH. He distinguished himself as Chief of the Camp Operations Division of National Headquarters, Selective Service System, from May 1941 to September 1945. In cooperation with the National Service Board for Religious Objectors, he developed the plan by which all conscientious objectors were able to render valuable service to the country in a manner compatible with their conscience and religion. Members of over 100 different religious denominations performed "work of national importance" in the 150 different camps and projects operated within the system of Civilian Public Service Camps. With sympathetic understanding and a firmness of decision, he skillfully and fully carried out the intents of Congress in this highly significant phase of the Selective Service program.

Colonel WILLIAM F. MAHER, for exceptionally meritorious and distinguished services in the performance of duties of great responsibility December 1941 to March 1942.

SILVER STAR

Lt. Col. CHARLES E. N. HOWARD
Captain ROBERT PENNELL
Captain ROY I. PLATT

LEGION OF MERIT

Colonel OLIVER P. BENNETT
Colonel RALPH C. BISHOP
Colonel ZENAS R. BLISS
Colonel HAROLD T. BROTHERTON
Colonel FRANK F. CARPENTER, JR.
Colonel WILLIAM E. CORKILL
Colonel FRED T. CRUSE
Colonel LOUIS R. DOUGHERTY
Colonel EINAR B. GJELSTEN
Colonel JOHN R. HANN
Colonel JOHN O. HASKINS
Colonel EDMUND H. JONES
Colonel WM. H. QUARTERMAN
Colonel SALVADOR F. REYES
Colonel HENSON L. ROBINSON
Colonel HAMILTON F. SEARIGHT

Colonel JOHN H. TIPTON
Colonel LUIS VILLA-REAL
Colonel JAMES G. WATKINS
Lt. Col. PHILIP K. ALLEN
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Lt. Col. FREDERIC C. HEDRICK, JR.
Lt. Col. PALMER W. HOLMES
Lt. Col. EVANS G. NASH
Lt. Col. BERNARD J. RAUCH
Lt. Col. ARTHUR V. SWEDBERG
Major STANLEY B. BONNER
Major JOHN W. DELAFIELD
Major GEOFFREY M. T. JONES
Captain RODERICK K. HENDRY
Captain ANDREW D. SHOEMAKE
Captain HENRY L. WIGHTMAN

OAK LEAF CLUSTER TO LEGION OF MERIT

Brigadier General FOSTER J. TATE
Colonel FREDERIC J. BROWN
Colonel HAROLD D. KEHM
Colonel MASON H. LUCAS
Colonel ARTHUR P. MOORE

BRONZE STAR

Lt. Col. HENRY L. MILLER
Major WADE COTHRAN
Major WILLIAM H. SMITH, JR.
Captain CECIL CALVERT
Captain LEWIS A. CLARKE
Captain JAMES F. COFFEE
Captain THOMAS H. KARAMESSINES
Captain ERASmus H. KLOMAN, JR.
Captain JESSE B. WRAY
Captain CECIL J. WARDELL
Captain HOWARD S. WOODCOCK
Lt. ROBERT KNIGHT
Lt. WILLIAM R. SLONE
Corporal LOUIS O. HODGES
Pfc. RICHARD L. LONGMIRE

BATTLE HONORS

THE 44TH FIELD ARTILLERY BATTALION is cited for outstanding performance of duty in action from 6 to 14

June 1944. The 44th Field Artillery Battalion landed on the Normandy Beachhead on D-day at H-plus-4 hours. Denied the position area farther inland because of inundated terrain, the battalion occupied positions on the seaward side of the sea wall on a beach already under murderous hostile artillery fire. Immediately upon debarking from its landing craft, the battalion began to fire in support of attacking infantry. Although under continuous observation and handicapped by mines on the beach, the battalion remained in its precarious position, providing effective and desperately needed fire support. Subsequently, on 7 June 1944, near Ravenouville, France, the 44th Field Artillery Battalion maintained a constant outpost line and, on 3 successive days, beat back strong combat patrols, in addition to carrying on its fire missions. During two counterattacks on the nights of 7 and 8 June 1944, this battalion, by its effective and decisive delivery of fire at maximum rates, enabled the infantry units it was supporting to hold hard-earned terrain, thereby assuring success on the beachhead. The volume, rapidity, and accuracy of the battalion's fire on targets, often so close at hand that less accurate fire would have been disastrous, contributed immeasurably to the success of the operation which drove the enemy beyond the first favorable terrain feature, the Nentebourg-Quineville Ridge, thus assuring the Allied command a firm toehold on the Cotentin Peninsula. The extraordinary professional skill, courage, and *esprit de corps* of the officers and men of the 44th Field Artillery Battalion exemplify the finest tradition of the military service. (General Orders 73, Headquarters First Army, 30 July 1946.)

THE 129TH FIELD ARTILLERY BATTALION is cited for extraordinary heroism and outstanding performance of duty in action against the enemy from 27 May to 24 August 1944 at Aitape, New Guinea. Shortly before 27 May 1944, intelligence reports were received to the effect that Japanese forces, split by the landing of the 32d Division and attached units at Aitape, were attempting to remedy their precarious situation by marching on Aitape from their base at Wewak. This task had been assigned to a picked unit, the well-trained Japanese 18th Army, who early verified these reports by their aggressive and extensive patrolling. Had their attempted operation been successful, it would have endangered the whole strategy of the New Guinea Campaign. To avert such, into the breach was hurled the 129th Field Artillery Battalion, the only artillery unit in position to check the Japanese advance and render fire support to the 127th and 128th Infantry Regiments, then in defense along Driniumor River for a distance of 4½ miles. Unable to depend upon available maps, the battalion, overcoming unusually difficult and hazardous conditions, initiated

extensive and painstaking air and ground reconnaissance. Forward observers on patrol with infantry elements encountered advance elements of the enemy force and brought devastating fire on targets of opportunity. In addition, the battalion furnished its own reconnaissance and local security, which successfully destroyed all preliminary attempts to enter the battalion perimeter. By 27 June, the situation was such as to require displacement of artillery pieces to the forward limits of the defective sector. On 10 July, after intense infantry and artillery preparation, the enemy launched a full-scale attack in strength. An immediate concentration of all howitzers of the 129th Field Artillery Battalion broke up this attack and forced the enemy commander to relaunch his drive in force at another point in the line. To this, the battalion also gave its determined and concentrated fire, expending some 1,300 rounds in little better than an hour's time and at a rate of better than 18 rounds a minute. Its complete ammunition supply exhausted, the battalion completed a successful and orderly night withdrawal and, in the next 36 hours, utilized its airplanes and radios to assist in a large measure the regrouping of all forces for a counterattack, infantry communication having been completely disrupted. Shortly thereafter, on 13 July, the 32d Division advanced in force against the enemy preceded by the heaviest of preliminary barrages and counterbattery fire. So successful was the execution against even the most fanatical of Japanese resistance that in an incredibly short time the Driniumor River line was resecured and the enemy forced to reorganize his heavily depleted units east of the river. After numerous feints at the original line, the enemy attempted a by-pass action through the hills south of Afua, only to be met by the same annihilating fire from the howitzers of the 129th Field Artillery Battalion, which had shattered his previous attempts. Eventually, his remnants withdrew towards Wewak, all threats to the success of the American Aitape operation broken. In this operation, which saw individual members of the 129th Field Artillery Battalion perform many recognized acts of heroism and gallantry, and exhibit the highest *esprit de corps*, artillery units contributed a decisive portion of the force which cost the Japanese in excess of 10,000 casualties. The 129th Field Artillery Battalion, at first alone and later the coordinating and intelligence force for all artillery units supporting the attack, maintained the finest tradition of the artillery, exhibiting only the best in training, discipline, and the delivery of accurate fire. Its action reflected great credit on itself, the 32d Division, and the military service. (General Orders 46, Headquarters 32d Infantry Division, 28 February 1946, as approved by the Commanding General, Sixth Army.)

PERIMETERS IN PARAGRAPHS

(Continued from page 511)

years prior to World War I, the Trieste area had been a part of Austria, for which (together with Hungary) it was the major seaport. It was also an important commercial port for south Germany. Trieste has been Italian since World War I. The inhabitants are Italian in the city, but in the adjacent mountains are Slavs. Trieste is not well situated to be a major port for either Italy or Yugoslavia, who have better ports respectively in Venice and Fiume.

Agreement was had at Paris to convene a Peace Conference on 29 July* to consist of the Big Four and 17 minor nations who had some function in World War II as Allies. The conference is to pass on drafts and treaties to be drawn and submitted by the Big Four relating to Italy and the Balkans. Only those nations who declared war against each country are eligible to sit in on discussions regarding the corresponding treaty. Under that arrangement it seems that Russia and her satellites will control slightly over 1/3 of the votes in each case, probably sufficient to prevent agreement on any matter not satisfactory to Moscow, particularly as regards continued Russian occupation of central Europe and Balkan states.

RUSSIA VS. THE WEST

Russia does not feel strong enough to engage in a major war at this time. If she has to depend on her own efforts and resources it will take many years before she can build up her air and naval forces, as well as her industrial establishment, to a level comparable to the Western Powers. That long intervening period (estimated to continue until about 1960) is a period of danger for Russia. She would like to shorten it—that is, be prepared at an earlier date.

If Russia can continue to occupy the states in central Europe and the Balkans for some years to come, it will afford an opportunity to consolidate them into her military and economic systems, by liquidating Underground movements and all other opposition. Together these states would furnish a

*In progress, as this issue went to press.

population of over 90 millions, and extensive resources. At least several years would be required to complete the program which Russia has already started. The goal is to work for military equality, or superiority, as compared to the Western Powers, meanwhile avoiding war.

The Western Powers are war weary, just as they were after World War I. Although strong, they do not want war. They might stand some provocation, just as they did during the 1930s. During those years they stood for Japan's invasion of Manchukuo and China, for Italy's attacks on Ethiopia and Albania, and for several German aggressions—all of which were contrary to treaties. It was only in 1939, when patience had been exhausted and aggressions multiplied, that war came. Is this going to happen again? Neither Russia nor anyone else knows.

What would aid Russia most in preparation for World War III would be a rapid increase in her industrial establishments. Nothing could be better in this regard than control of Germany. Clearly, then, Germany remains the major strategical problem of Europe.

GERMANY

Germany is conquered, occupied, and utterly helpless to oppose any decision regarding her destiny upon which the Allies agree. They do not agree, and therein is danger. The prime factor is Germany's potential role in World War III. Obviously, there are three possibilities—Germany might take no part or she might join one side or the other. If history is any guide, Germany is unlikely to remain neutral in a major European conflict, unless compelled to do so by occupying Powers.

Fear Complexes. The Western Powers fear a Communist Germany allied to Russia. Such a union might enable Russia to wage a major war long before 1960.

Naturally Russia fears that Germany may become anti-Communist and ally herself with the Western Powers. Since she had a hard time defeating Germany with the aid of the Western Powers, it is certainly more than doubtful that she would be able to defeat a Germany allied to the Western Powers.

Proposed settlements of the German problem encounter these two fear

complexes. Noting this, the Germans themselves are predicting a war between the Western Powers and Russia over what they consider an unsolvable problem. What Germany will do about it isn't known. In all probability the Germans have no plan, but remain open to offers from one side or the other, provided they can thereby recover their independence. This is really a dangerous situation, and one that can go from bad to worse unless a satisfactory solution is reached.

Russia has one advantage. After the fall of Stalingrad, the German Marshal von Paulus was induced, along with other German officers, to join in operating a radio station which broadcast anti-Hitler advice to Germany. Since the end of the war, the German CP in Russia has been continued. The British report that a number of other German officers have left their zone to join the Russians. This German CP appears organized to further Russian control (disguised as an alliance) of Germany with its vast resources. None of the other Powers has anything to compare with that Russo-German organization.

Germany used to have a large Communist Party. Reorganized by Russia, this Party materially aids her as a Fifth Column in Germany.

Each of the Big Four Powers has proposed a solution of the German problem. No solution agrees with any other. The solutions take into consideration economical factors, but the basic aspect is military. Together they form a first-class problem in strategy.

SCRAMBLE FOR SOLUTION

The Atlantic Charter was issued on 14 August 1941 and stated that the common principles of the United States and Great Britain included:

"1. Their countries seek no aggrandizement, territorial or other."

"2. They desire to see no territorial changes that do not accord with the freely expressed wishes of the peoples concerned."

"3. They respect the rights of all peoples to choose the form of government under which they will live."

"4. They will endeavor, with due respect for their existing obligations, to further the enjoyment of all states—great or small, victor or

vanquished—of access, on equal terms, to the trade and raw materials of the world needed for their economic prosperity."

Germany is not mentioned in the Charter, but the terms used—*all peoples, all states, and victor or vanquished*—certainly seem to include Germany. The Declaration of Washington, on 2 January 1942, announced that Russia (among other nations) had subscribed to the Atlantic Charter.

The First Modification. At the Quebec Conference in September 1944, paragraph 4 of the Atlantic Charter was changed. It was then directed (on a proposition of our Secretary of the Treasury, Mr. Morgenthau) that the Ruhr and Saar industrial areas should be dismantled, and that their machinery be distributed among the Allies. The entire history of this Conference is not yet known, but it appears to have envisaged that hereafter Germany should be mainly an agricultural and not an industrial state.

The U. S. Directive of 30 April 1945 furthered the foregoing idea, by prescribing maximum agricultural development and minimum industrial activity, to be enforced by the U. S. Military Government within its zone.

The Yalta Conference (February 1945) had determined, meanwhile, that Russia would receive territorial aggrandizement at the expense of Poland, with Poland being recompensed by equalizing aggrandizement at the expense of Germany. It was further agreed that Germany would be occupied indefinitely in separate zones by the Big Four Powers, and that Germany would be required to pay "reparations," although the amount was not decided. Russia asked for 10 billions of dollars as her share.

The Potsdam Conference (August 1945) determined (France not being present) that the Foreign Ministers would work out a peace treaty for Germany. In the meantime Germany would be ruled by the Allied Military Governments. It was prescribed that central German administrative departments for joint supervision of finance, transport, communications, foreign trade and industry should be established throughout the four occupied zones. Reparations were provided for by allotting

to Russia all machinery, products and supplies desired found within her zone, plus an additional 10 or 15% (depending on class) found in the western zones. The Western Allies were to have the remaining 90 or 85% of what they could find in their zones. No money values were stated. Russia was granted further territorial aggrandizement by assignment to her of German Koenigsberg and adjacent territory. Poland was granted that part of Germany east of the Oder and Neisse Rivers. The principle of the Atlantic Charter as to the freely expressed wishes of peoples concerned to territorial changes was disregarded. These agreements also disregarded the provisions of the Hague Conventions, to which the Big Powers were signatories, which forbade seizure of private property without compensation, regardless of whether these were called reparations or not. This Conference further provided for the "orderly removal" of Germans from Poland, Czechoslovakia and Hungary.

Year Following Potsdam. No central German administrative departments have been set up as envisaged, due to inability of the Allies to agree among themselves as to how to do it. The "orderly removal" of the German population has been effected, less POWs who have not been returned. Most of these are in Russia and are estimated to total three million. No material progress has been made on a peace treaty with Germany.

The present situation is dominated by the possibility that Germany, if allowed to retain her industrial areas, might eventually rearm and reappear as either a powerful friend or enemy in another war. In order of importance, the three main German industrial areas are: the Ruhr, presently occupied by British forces; Silesia, which is within the territorial area severed from Germany and assigned to Poland, and which now falls within the Russian economic system; and the Saar, presently occupied by French forces.

British viewpoint was expressed on 12 June in the House of Commons by Foreign Minister Bevins. He proposed that the Ruhr be made a European, as opposed to a German, industrial center under international control. He recommended that the Ruhr produce only semi-manufactured articles, which could then be forwarded to France, Yugoslavia and Hungary for finishing. If Germany

were permanently deprived of finishing machinery, she would never be able again to become an industrial nation, much less a major military Power.

Russian viewpoint was presented on 10 July to the Paris Conference by Foreign Minister Molotov. He opposed making Germany into an agricultural state and recommended restoring the Ruhr to Germany. He opposed the dismemberment of Germany and particularly the separation of the Ruhr. He believed that the Allies should retain military and economic control of Germany, and expressed a desire for a peace treaty—after a single German government was functioning.

American viewpoint was presented by Secretary of State Byrnes to the Paris Conference on 11 July. He favored preparation of a treaty with Germany, regardless of whether or not there was a German government, with the treaty defining the boundaries of Germany, the exact amount of reparations to be exacted, and the specific meaning of German disarmament. He announced the intent for economic cooperation between the American zone and any of the other occupied zones, as arrangements could be made.

French viewpoint, as expressed by its Foreign Minister and Chief of State Georges Bidault on 12 July, adhered to previous statements that the Ruhr and Rhineland should be severed from Germany and that the Saar should be assigned to France. Temporarily, he saw no objection to economic cooperation between the French and other occupied zones, provided no German administrative departments were set up as prescribed in the Potsdam Agreement, to which France refused to be bound.

COMMENTS

The Rusisan viewpoint is an open bid to all Germans to align themselves with Russia. It offers them all territory in the occupied zones, not already assigned to Russian satellites. The British and French would get nothing; the United States, of course, does not seek territorial cessions from Germany.

If the Russian plan should be adopted, Germany reappears as a powerful industrial state. In theory, rearmament would be prevented by some kind of Allied control. If the Allies fail to agree, as

they have in the past, Germany might easily find it possible to rearm. She might even be aided by Russia, provided in return the Ruhr furnished Russia with trucks, tractors, railroad supplies, and machinery of all kinds.

Actually, Russia is in a position to return part of the territory already taken from Germany. For an alliance with Germany, it is conceivable that Russia might agree to another partition of Poland, especially if the Polish Underground becomes too much of a nuisance. It is significant to note that none of the other Powers is in anything like the bargaining position vis-a-vis Germany as is Russia.

The Anglo-American plan (presumably conceived at the Quebec Conference of 1944) providing for reduction of Germany to a non-industrial state, has apparently been repudiated by Russia. That plan envisaged continuous occupation of Germany for a long period of years.

A similar plan has been adopted for Japan. It is certain that any Power which offers either Germany or Japan a hand to break Allied occupation and control is likely to be received sympathetically by the Germans and Japanese. That is the weak point in the plan for occupation. The plan cannot be carried out except by continuous military force. As soon as that military force is challenged, the plan is threatened. Any Power threatening the plan of occupation will receive Underground assistance.

Russia has made a bid for Germany. Her representatives on the Allied Council at Tokyo have already made enough objections to establish a base for a similar bid to Japan. The Russian press has made numerous charges against American aid to China, and has prepared the ground for possible intervention in north China in favor of the Chinese Communists. The Communists hold Manchuria, which has been the main industrial area of China.

As against the Russian bid to Germany, the other members of the Big Four offer dismemberment and what is practically intended to be a species of slavery, where industry, education, and standards of life are all to be at the control of the occupying Powers. Particularly Germany is to lose economically and perhaps politically her Ruhr and Saar areas. It is easy to see which Power Germany will favor.

The military situation as a whole is that Russia alone does not feel secure against a possible attack by the Western Powers. She is strengthening herself

in the occupied areas, but that alone is not sufficient. She needs (or thinks she needs) more aid and quickly. The best aid—and the one that would be most

rapidly effective—would be an alliance with Germany. Japan and Communist China are secondary and less likely to be sought for.

Thus far the Western Powers have apparently taken no effective action against the Russian advances for German support.

RUSSIA VS. OCCUPIED STATE

RUSSIA VS. OCCUPIED STATES

In the March issue of THE FIELD ARTILLERY JOURNAL it was stated in this column that Russia was sincerely desirous of maintaining the peace. It was emphasized that Russia was critically short of labor, supplies and food—to such an extent, in fact, as to make a major war on her part impracticable for a prolonged period. Those lines were written in mid-January, 1946. Six months later evidence has accumulated verifying these statements. But during this period there has been a change in Russian political action, which warrants a review of the situation.

At the beginning of March, Russia was active politically in several important theaters of operation, including:

Iran: Azerbaijan was occupied with strong forces, in violation of treaty requirements.

Manchuria: Russian troops also held their positions here in violation of a treaty.

Turkey: There was an active press campaign for cession of substantial parts of Asia Minor. Demands had been made through the Western Powers for Russian bases on the Istanbul Straits. Troops were concentrated on both the east and west boundaries of Turkey.

Kurdistan: Russian sponsored movements had appeared for creation of a new state.

Yugoslavia: Troop concentrations were made opposite both Trieste and Greece. At the same time Russia insisted on the cession of Trieste to Yugoslavia.

Mediterranean Area: Russia had demanded bases in Libya and in the Dodecanese Islands.

Red Sea Area: A base in Eritrea had been asked for.

Spain: A violent diplomatic campaign had been initiated against Spain with a view of ousting the present government.

Conferences: Russia disagreed with the Western Powers on most important policy matters.

CHANCE OF POLICY

A change of policy came about in the latter half of March, quietly and without explanation. The reasons for the change are still locked in the records of the Polit Bureau, which determines Russia's policies.

The first results were the announcement on 24 March that Russia would withdraw her troops from Iran by 8 May. This was done. Without special announcement Russia withdrew her forces from Manchuria by 30 April. These actions removed two major sources of conflict from the Western Powers. True, Russia through diplomatic activities achieved most of its objectives in Iran by the erection of Azerbaijan into an autonomous state, and by the receipt of oil concessions. In Manchuria, there have been no corresponding Russian gains. If there be connection between Russia and the Chinese Communists, who hold most of Manchuria, it has not been proved that Russia is aiding the Communists.

Commencing in April, the press campaign against Turkey began to die down, and by summer had practically disappeared. There is a reported decrease of Russian troops on Turkey's frontiers, and the problem of the Istanbul Straits is lying dormant. Likewise, the movement in Kurdistan is not being pushed. An appeal by the Arab League to Russia regarding the situation in Palestine offered Russia an opportunity to mix in that problem. However, she refrained from doing so.

In July, Russia agreed to the erection of Trieste into an independent territory, and further agreed to postpone action on Libya and other Italian colonies for not over one year.

The diplomatic campaign against Spain is still open, but is not being actively pushed.

Taking all changes in policy into consideration, it seems evident that Russia particularly desires to avoid incidents, or risks for war, with the Western Powers and has taken substantial

steps to accomplish this. Although nothing is yet known of what facts influenced the Polit Bureau to change its course, some important facts are discussed below.

RUSSIA'S INTERNAL SITUATION

This is not satisfactory—less so than stated in the report appearing in March. A large number of Rusisans do not favor their Communist Government. On 26 June, Russia announced that two of its constituent states (Crimea and Checheno-Inguish) had been suppressed. According to reports, these two had generally joined the Germans in 1942, when the armies of that nation reached them. Their populations were respectively about 1,100,000 and 700,000. These are now stated to have been liquidated, in part by transfer and resettlement to unstated areas and in unstated numbers.

Moscow has announced that widespread dismissals of industrial executives were being made due to sabotage. The areas involved included the Urals, Moscow and Leningrad. It seems that there is opposition to the current 5-Year Plan.

Returning demobilized soldiers have spread reports about the superior conditions of life in western Europe. These reports do not coincide with Russian Government statements that, before the war, Russia had the highest workers' standards in this world. This has caused discontent and loss of confidence in the government and is serious.

While passing through Separation Centers the demobilized soldiers had all loot taken away from them. Some of them had seized trucks and cars and had filled them with goods. The Government had reconditioned such goods, and issued them to government stores for sale. While large, the quantity of stores has not been anywhere near sufficient to supply the public demand. However, it has sufficed to let the people know that workers in western Europe owned such articles as alarm clocks, wrist watches, spring mattresses, etc.

Naturally the people want an explanation as to why their own Government does not provide similar articles.

On 19 June, a General Order was issued prescribing new courts martial rules. Severe penalties were established for misappropriating supplies intended for the military service, embezzlement of funds and foods, and failure to salute.

Reports from American correspondents in contact with Russian troops in west Europe are that there has been a reduction of strengths, with replacement by better disciplined and better equipped troops. Russia is endeavoring to reestablish a disciplined force and has made substantial progress among the troops on its front lines.

UNDERGROUND MOVEMENTS

The major Underground now is in Poland. It is extensive and well organized. It is directed primarily against Russian occupation troops and the Polish Government, alleged to be just a front for Russia. That government does follow Russian directives. There is very little interference by Russia with Poland. It isn't necessary, as the Government is heart and soul in sympathy with Russian Communism.

The leader of the opposition is Stanislaw Mikolajczyk, who had a distinguished position in the now dead London Poland-in-Exile Government. In an election held 20 June, the existing government reports that it received a large majority. Mikolajczyk concedes that the election was free, but claims that the counting of the ballots was most corrupt and entirely changed the result indicated by the voters. It is quite possible that this situation may lead at a later time to an open civil war.

Russia is attempting to suppress Underground movements and

In order to evaluate the military situation in China today, it is necessary to understand the past. Only by such understanding can one project the trend of current events.

PAST HISTORY

China vs. Manchuria. The 1911-1912 Revolution in China overthrew the

particularly to liquidate the leaders. They fear to act openly against Mikolajczyk, as that gentleman is widely known in London. His disappearance might react unfavorably against Russia. It is not forgotten that Hitler's liquidation of Jews in mass aroused great hatred throughout the world, and became a major factor in lining up world opinion against Germany. Russia has noted that lesson and, having first established an iron curtain to prevent undue publicity, is undertaking the desired liquidation slowly.

In Hungary there is strong dissatisfaction. The leader of the opposition is Cardinal Mindszenty. Although Catholic, his opposition is non-sectarian and is accepted by the Protestants. The Russians fear to liquidate him on account of his high position internationally. They have arrested his clergy, closed his schools, murdered some prominent lieutenants, but the old Cardinal goes right ahead and keeps the country opposed to Russia.

In Yugoslavia the former small divisions of General Mihailovich have decentralized into bands of from 10 to 100 men, who continue general sabotage from bases in the mountains. General Mihailovich has been tried, condemned and executed for alleged collaboration with the Germans. The trial was open. As previously reported in this column, the defendants were first tortured and threatened with death by further extreme torture unless they admitted guilt. Witnesses for the defense were refused permission to testify on the ground that the prosecution was able to prove guilt and no defense was needed. This trial was a Russian test as to how far they could go without arousing Anglo-Saxon opposition. If there be no reaction from the United States and the British Empire,

the same procedure may later be used against distinguished leaders in other occupied countries who refuse to submit to Russia.

PSYCHOLOGICAL FACTOR

Russian leaders have a strong fear complex, and appear to believe in all sincerity that the Western Powers desire to overthrow their government. Consequently, they consider it necessary to strengthen their military forces to the utmost extent, which has been announced as their main mission. As it will take time to accomplish this, no war is desired earlier than the completion of current Plans which extend into 1960.

The fear complex extends to Russian diplomatic missions abroad. Their Foreign Minister considers it necessary to have a private guard, to move in armored cars, and to take extensive precautions. At the Paris Conference, for example, objection was made to the 2nd story office assigned to the Russians, on the ground that a poplar tree about 75 yards distant afforded an opportunity for snipers to assassinate the Foreign Minister. Explanations by the French authorities that the top of a poplar tree would be a difficult position for a sniper and could not be occupied and established without attracting attention of a large police force always present had no effect. Another room without trees overlooking it had to be assigned. The Russian guard and staff at Conferences never mix with outsiders. Their passports bear no names or descriptions, only a number and occupation, for example No. 26—typist; No. 47—interpreter, etc. The passports would seem to be interchangeable. The reason for all this mystery is not known. It is an illustration of the fear complex.

CHINA

Manchu Empire. The Manchus, whose home was Manchuria (a hostile state outside the Great Wall) had conquered China in the first half of the 17th Century. The Manchus had exclusion laws against Chinese settling in Manchuria. A limited number of Chinese were admitted to Manchu citizenship under special conditions, including faithful and honest service in

the army for a term of years. This was highly prized, but was a closely restricted privilege.

The Revolution overthrew the Manchu government, the Manchu governors, and the Manchu army. Chinese governors replaced the Manchus, and most of them raised their own troops. A period of civil wars of governor

against governor resulted, and much of China suffered heavily from wars and famines. In part, Manchuria was exempted. It received a Chinese governor, Chang Tso-lin, who was more than ordinarily corrupt. However, since 1903 Japan had exercised considerable control in Manchuria and had managed to preserve more order than elsewhere. Also Manchuria had been opened to Chinese immigration. The Chinese disliked the Japanese as much or more than they disliked all foreigners. Nevertheless, they considered Manchuria to be a haven in a period of anarchy and entered that country in large numbers to escape conditions in China proper.

Chiang Kai-shek. In the meantime a central government had been established in China, and by 1926 this was headed by Chiang Kai-shek as Generalissimo. His previous military training had been in the Japanese army as a 2nd lieutenant; afterwards, he had taken a year's training in Russia, and then had become a captain in the new Chinese army. His appointment as Secretary to President Sun Yat-sen led to his becoming his successor and the head of the Kuomintang, or National Party.

This party claims to represent democracy, and to favor that type of government. In the 20 years that have passed since its accession, there has never been an election. Rule has been a dictatorship. In general it has been corrupt, which is not extraordinary in Chinese politics. In fact, it is usual.

This writer was in China during the famine of 1911. There was no UNRRA in those days, but charitable Americans sent shiploads of food to Shanghai for the starving people. Much of this was sold to the black market by corrupt Chinese officials, just as the UNRRA claims is being done today.

The continuing failure of the Kuomintang to check this corruption, and the refusal to hold elections has been a basic ground for complaint, which is widespread.

Communist Opposition. Forceful resistance to the Kuomintang on a large organized scale first became noticeable in 1930 with the appearance of a strong Communist Party, which then centered

in Kiang Si and Fukien provinces, some 400 miles south of Nanking. This was headed by Chou En-Lai and Mao Tze-tung, who to this day have remained the Communist leaders.

The Communist Party has adopted in general the principles of Marxism, particularly as regards the confiscation of estates owned by absentee landlords. The Party has been noticeably honest, has been frugal in its expenditures and in collection of taxes, and has accomplished some social reforms. It appeals to the common man and has been able to receive the support of many. It conducts elections, but appears to have borrowed from Russian practices. The elections are more or less controlled, with Communists invariably elected to key positions. However, the Party has not followed Russian directions blindly. Liaison has been maintained with Moscow, but relations have varied from good to poor.

Having pretty well organized the two provinces held by them by the end of 1930, the Communists threatened to extend their hold to further areas. Chiang Kai-shek then determined to overthrow them and establish Kuomintang rule over the whole of China. That mission has never changed. Neither has the Communist mission changed. It stands, as before, for an elected government—democracy as interpreted by Communist theory—and for honesty in government administration. In all the intervening years, neither leaders nor missions of the two great Chinese parties have changed.

THE CIVIL WARS

Diffused Exterminators. Chiang Kai-shek estimated that the Communists had about 40,000 troops. In October 1930, he initiated what was announced as an "extermination campaign," with an army of 100,000 men. The Extermination Army advanced slowly on a wide front. They received a number of checks during November, which necessitated reorganizing. A new advance was made in January 1931. The Communists showed unexpected mobility, and considerable strategical ability. They attacked separated columns, defeating them in detail. The campaign was then abandoned.

The Generalissimo promptly organized a new army of 200,000 men, and started his 2nd Extermination Campaign in May 1931. He advanced in seven columns of about a corps each with wide intervals, thereby repeating the error of the 1st Extermination Campaign. In a 14-day campaign, the Communists assumed the offensive and attacked and destroyed in turn the 2nd, 3rd, 6th and 7th Columns. A general retreat was then ordered, but the 5th column was slow and was partly destroyed. In this campaign, the Kuomintang lost about 200,000 men. The Communist loss was estimated as 10,000, reducing their total force to 30,000.

Against this comparatively small force, the Generalissimo raised a new army of 300,000 men, and started his 3rd Extermination Campaign in June. Advancing with care, he avoided unusual losses until September, by which time he had repeated his constant error of splitting his forces into widely detached columns. In a 5-day campaign, the Communists destroyed one column of about a corps per day. So ended that campaign.

After those unhappy experiences the Communists were let alone during 1932, but early in 1933 a 4th Extermination Campaign was launched with 250,000 men. Once more the army advanced cautiously but then again split into division columns. The Communists then destroyed or partly destroyed three divisions in turn, and that campaign ended.

Slow But Sure. The final campaign of this series was the 5th Extermination Campaign. Nominally under the Generalissimo, the real leader was the German General von Seekt, who was at the head of a training mission. Von Seekt rightly considered the Kuomintang armies to be too corrupt and inept for maneuvers before an active enemy. A Kuomintang force of 900,000 men was raised representing about a hundred divisions. Beginning in October 1933 this force was placed in a great circle about Kiang Si province, closing all lines of communication. As that province is not self-supporting in food, it was certain

that if the blockade could be maintained until after existing supplies had been expended the enclosed forces would have to either come out and fight or surrender. In case they elected to fight, von Seekt had all positions covered by field fortifications, including considerable artillery and much wire. An air force of some 400 planes was available for reconnaissance.

The line of circumvallation, thus established, was contracted at frequent intervals. Advances of not more than 5,000 yards at one jump were made under cover of the artillery at the preceding position. The advance was then protected by a new line of fortification, the artillery displaced forward, and preparations were made for the next advance.

Necessarily, this type of campaign is slow but sure. In just one year the Communist force, which had been raised to 90,000 men, was approaching starvation. The Communist commanders made a bold strategical decision. They decided to abandon Kiang Si, break through the encirclement with the entire 90,000 troops, and depart for an entirely new and distant theater of operations. They elected to make their main effort on the west front, with a secondary one in the south. Moving at night and without trains, they passed through the Kuomintang lines on both the fronts without the Kuomintang appreciating what was happening. In a remarkable maneuver, the Communists marched some 800 miles to the west, then turned north and marched an additional 1,000 miles in winter and established themselves in Shen Si, where they have maintained their CP and main body continuously since 1935.

Out of a Job? In Shen Si liaison was made with the armies of Chang Hsueh-liang, successor to Chang Tso-lin, the former governor of Manchuria. Chang Tso-lin had been run out of Manchuria by the Japanese in 1931 and died in a railroad "accident" engineered by the Japanese. His rule in Manchuria had been so bad and he had been so thoroughly detested that there had been no opposition to the Japanese occupation. However, Chang Tso-lin's troops were out of a pretty good job. Having escaped into China, they were desirous of getting back to Manchuria

and their good pickings. They were glad to have the reinforcement of the Communist troops, who were experienced fighters.

Back on the Job. Chang, known as the Christian General, made advances to Chiang Kai-shek for a campaign against Japan to recover Manchuria. During 1936 he represented that he had 170,000 troops, exclusive of 40,000 Communists. This seems to have been the first confirmation to the Kuomintang that the Communists were in the field with substantial forces. This was unexpected, as it had been represented widely that the Communists had been exterminated.

The Generalissimo decided to visit Chang at his CP at Siking in Shen Si and see how the situation really was. He arrived on 7 December, and was disagreeably surprised to find that the Communists were back on the job under the same old leaders. He seems to have declined to discuss a campaign against the Japanese on the ground that suppression of the Communists was the more urgent problem. He prepared a plan for a new Extermination Campaign, to be announced in a General Order on 12 December, and which provided for the arrest of Chang if he refused to go along.

Breach of Faith? In view of this situation, during the night 11/12 December Chang arrested Chiang's staff. The Generalissimo escaped through a window in his nightgown. As it was very cold he had an uncomfortable experience, and made no resistance when he was discovered after daybreak. He was placed in arrest. A conference resulted. General Chang stated all he wanted was to fight Japan, and particularly to recover Manchuria. If the Generalissimo would agree to this everybody could unite on a single patriotic mission. The final agreement has never been divulged, but it seems that the Generalissimo agreed to fight Japan, whereupon Chang flew him back to Nanking on Christmas day. Chang expected to be appointed C-in-C for a forthcoming invasion of Manchuria. As soon as he was safe back home, however, the Generalissimo placed Chang in confinement, and has kept him there ever since. This is a special grievance of the Communists, who

charge a breach of faith. Needless to say, the Generalissimo did not organize an attack on Manchuria.

FROM 1937 TO 1946

In July 1937, Japan started the war against China. Generalissimo Chiang Kai-shek was given an opportunity to compromise with the Japanese but declined to do so. The war spread. As is well known, the corrupt and inefficient Kuomintang forces were beaten wherever they encountered the enemy.

In view of the catastrophe, a truce was patched between the Kuomintang and the Communists and sealed by an Agreement on 22 September 1937. The Communists were to cease opposing the Kuomintang, and to discontinue their Communist government. The Kuomintang agreed to incorporate the Communist forces within the Kuomintang army. Both sides agreed that China was a democracy.

Nothing came of this agreement. The Communists built up their government and forces in north China. For a time they did not engage in operations against the Kuomintang, and both sides resisted the Japanese. The resistance was mostly passive and resulted in Japan occupying enough key points in China by 1942 to enable her to control that country's commerce.

By 1940 the Communists had reorganized and rearmed a strong force of troops. Incapable of fighting the Japanese, they could and did fight the Kuomintang. The latter were in the same situation, and fought the Communists. In 9 years there was no appreciable change in the relative position of the two parties.

Disinterested Arbiter? With the surrender of Japan the acuteness of the internal condition of China became strikingly apparent. The United States had taken a decided interest in China, and earnestly desired to end the civil war. The United States was handicapped in that the Communists considered her committed to the Kuomintang (which, to the Communists, meant the continued dictatorship of Chiang Kai-shek) and not a disinterested arbiter. The Kuomintang was financed by the United States, had been given Lend-Lease

supplies and had had its troops equipped, trained and transported by the American government. These things aroused Communist opposition.

Nevertheless the United States was able to secure a new agreement on 10 January 1946, between the Kuomintang and the Communists providing for a cessation of hostilities. The terms were similar to the 1937 Agreement. This new agreement has no more been kept than the earlier one.

Hostility Deep-Seated. In estimating the military situation today, it is well to keep the foregoing record in mind. The same parties with the same leaders have been fighting one another continuously since 1930. Objectives have not changed. Neither side is likely to abandon its views and neither is willing to trust its fate to the other by a surrender, no matter what promises may be made. There have been too many evidences of bad faith for Chinese leaders to be willing to risk their interests to any one not a member of their own party. At this date the hostility of the two parties to each other is deep and sincere.

RECENT EVENTS

Military events have been unimportant. In Manchuria, there has been no change in positions. The Kuomintang holds the South Manchuria RR from Harbin, exclusive, southward to Tientsin, the latter area being protected by American Marines.

In the vicinity of Tientsin, large Communist forces are reported as holding the surrounding country but nothing further than minor fighting has occurred.

In Shantung both Communists and Kuomintang have undertaken minor offensives, leaving the province partly held by each. In Kiangsu, the Communists have made large gains without meeting major opposition and now hold the north bank of the Yangtze River, close to Nanking. To meet the threat to the capital city, the Kuomintang claims to have assembled 40 divisions but they have not undertaken operations north of the river. At Nanking the Yangtze is a mile or more wide, deep, and a formidable obstacle. During the summer, the river regularly overflows its banks, and the inundated area may be as much as 30 miles wide. The river is an effective boundary between hostile forces.

In Hupeh, fighting north of Hankow appears to have been in favor of the Kuomintang. In Shansi fighting has been limited. New forces of Communists are reported in Shensi and are stated to have come from Manchuria.

Travelers from Manchuria report that that vast province is being consolidated by the Communists with a view to operations in the future. Control of the railroads simplifies this problem.

Political events have been limited to American efforts to stop the civil war, and to organize an effective Chinese army and navy. On 19 June, Congress was asked to pass a law authorizing the detail of 750 American army officers, and 250 naval officers, together with issuing a large amount of supplies to the Chinese. The American estimate is that the Kuomintang now has 300 divisions, and the Communists 75. It is proposed to reduce these to 50 and 10 divisions respectively; 1,000 Chinese officers would be trained in the United States, presumably annually. The proposed program is to continue for 10 years.

On 10 July, the acting Secretary of State announced that the American policy was to bring about a political settlement in China that would make that country a free, united and democratic nation. General Marshall had been detailed as ambassador for that purpose. It was he who had proposed American military aid to China. There had never been any question that the Chiang Kai-shek Government was the rightful government of China, although the United States did not approve of his one party government. A new ambassador was being assigned to China, vice General Marshall. The new man is John L. Stuart, long-time missionary in China, and now 70 years old. He has been an assistant to General Marshall.

On 16 July, the President signed a law authorizing the transfer to China of 271 small naval ships to start its own Navy. Of these ships 193 are landing craft.

COMMENTS

The probability of a peace between the Kuomintang and Communist Parties is not likely. During the 16 years of continuous warfare between the two parties, there have been endless discussions, and repeated truces. There is nothing left to discuss which has not already been thoroughly discussed.

Neither side has respected any truce, and both sides have agreed to them only as a pause in the fighting was thought desirable. The same leaders head the opposing parties now as before.

The United States has made serious efforts to maintain the peace in China. While the Japanese were holding key points on all main lines of communication, hostile operations between the Kuomintang and the Communists were necessarily restricted. The United States took advantage of that situation, and induced the Communists to establish a CP at the capital city of the Kuomintang in order to supervise negotiations between the two parties, with the American ambassador destined to be the mediator.

However good the American intention may have been, it has failed, and war between the Kuomintang and the Communists appears scheduled to recommence on a full scale.

According to American estimates the Kuomintang forces outnumber the Communists. Moreover, the Kuomintang has more and better equipment, a small naval force and a fair size air force. The Communists have neither air nor naval forces, although it is rumored — but not confirmed — that an air force is being organized.

It would seem that the Kuomintang ought to be able to defeat the Communists. However, over a 16-year period they have at times had a numerical superiority of 10 to 1, and seldom if ever less than three to one. They have never won. Invariably this has been the result of bad generalship and corruption among the Kuomintang High Command. This may change, but to date this had not become apparent.

Neither have the Communists been able to win. They have avoided defeat, but the best they could do has been to hold certain areas. They have had the good sense not to fight superior numbers. On such occasions they have given way, only to reunite elsewhere and attack and destroy isolated Kuomintang forces.

The United States has succeeded in equipping and training a number of Kuomintang divisions, and has financed (and still is financing) the Kuomintang state. There has been no success in uniting China into one organized state which would be a real asset to international peace.



Strictly "Brass"

Dear Editor:

I was formerly a Pfc. in A Btry, 168th FA Bn, and this note is just to inform you that I am not renewing my subscription. Your magazine is strictly "Brass." — C. H. LAVEY

Toledo, Ohio

All-Important Omission

Dear Editor:

In our swing to self-propelled artillery we will have to make certain revisions in our former concept of what should be included in data tables. Specifically, the comparative characteristics chart on pages 408-9 of the July issue included some relatively unimportant data but omitted the all-important characteristic of any tracked vehicle—namely, the unit ground pressure. The horsepower-weight ratio is another item of considerable importance that was not included.

L.T. COL. A. B. SUNDIN, FA
Washington, D. C.

—The following are the data requested.—
Ed.

	Approx. Ground Pressure (Lbs/sq in—loaded)	Hp/ton
105mm How, M37	10.2	11.0
155mm How, M41	10.8	10.2
155mm Gun, M40	10.2	11.7
8-in How, M43	10.2	11.7
240mm How, T92	12.5	8.1
8-in Gun, T93	13.5	7.8

Shocked and Dismayed

Dear Editor:

As one who most certainly counts himself in the "old friend of the Editor" category, I have taken a great deal of satisfaction in the strides THE FIELD ARTILLERY JOURNAL has taken under your leadership. Also, I have been

gratified by the thoughtful and progressive policies on the Army and National Defense which the JOURNAL has adopted. Because of these facts, I was particularly shocked and dismayed by your blast in the July issue against the term "professional soldier."

There is nothing in life to date which has given me greater satisfaction and pride than being a member of the "honorable profession of arms." As a *professional soldier*, I feel that I belong to a learned profession whose standard of ethics is second to none; a profession which has never failed the country since George Washington founded our Regular Army—an Army of *professional soldiers*. I am very proud to belong to the company of Pershing, MacArthur, Eisenhower and the other of our countrymen who have followed the profession of arms. I cannot forget that it was the *professionals*—whom a small but very vociferous group of our countrymen now find it fashionable to despise—who made the World War II Army possible in the grim days of four years ago. I can well remember—and so can many others—what it was like to be the only professional officer in a regiment back in '42. None of us has cause to be ashamed of the job our profession did. The citizen Army is superb—if there is a professional corps to leaven the mass.

There is a very disturbing tendency on the part of the professional soldier since V-J Day to adopt a meek, defensive, apologetic attitude in his not-too-happy public appearances. I recall one of the arguments for Universal Military Training, which ran to the general effect that it would help to "do away with an un-American, objectionable, professional military group." Just what has our corps of professional soldiers done to be ashamed of, that we must get

down and wallow in the mud of self-abasement? So long as we take that attitude, we will continue to be a fair target to anyone with some additional mud to sling.

Let's take a page from the Navy's book. I have yet to hear a Navy officer state, either publicly or privately, that he was ashamed to write "U.S.N." after his name.

Let's get aggressive—I'd like to see THE FIELD ARTILLERY JOURNAL in the forefront of a campaign to let the country know that the professional soldier is damned proud of the fact that he elected to devote a lifetime to the profession of bearing arms in defense of his country. If ever that profession becomes so low in public esteem in the United States that mention of its existence must be avoided on the pages of its own journals, I fear for our country.

COL. C. T. TENCH, GSC
Washington, D. C.

—Editorially, this JOURNAL has failed miserably if—as Classmate Tench implies—it has evidenced a "meek, defensive, apologetic attitude." The reverse is its expressed policy. (See *Editor's Creed* in the May, 1946, issue.) Written with great pride and not in shame, moreover, were the words, *Soldiering is second to no other profession in honorableness and public trust*, which appeared in the editorial, *Career Building*, in the same issue with the piece to which Colonel Tench objects. But the connotation of a term (Webster: "suggestive significance . . . apart from its explicit meaning") and not professional pride or shame was the point at issue. Too whopping big a subject for lengthy discussion here, this JOURNAL is content merely to repeat its firm and often-expressed conviction that our Regular Officers bear a heavy and most sobering burden, as the soldier-servants of a *free* people. We could rest easy on our oars, as mere *professionals*, if we worked for an "upside-down" government. We don't. Far bigger and tougher is our job as *citizen-soldiers*.—Ed.

Paid Dividends

Dear Editor:

To set the record straight concerning

General Patton's part in the breakthrough as discussed in THE FIELD ARTILLERY JOURNAL review of *Patton and the Third Army*, I quote the following from the official Third Army After Action Report:

On 28 July, on verbal orders of Lieutenant General Bradley, Commanding General of Twelfth U. S. Army Group, Lieutenant General Patton assumed operational command of all troops then in the VIII Corps Zone, and, acting as Deputy Army Group Commander, supervised the lightning-like followup with which the enemy was hit by that Corps. The 4th and 6th Armored Divisions were quickly thrown in, followed closely by the 8th and 79th Infantry Divisions, to drive rough shod to the south over a demoralized and rapidly retreating enemy. Lieutenant General Patton's role at this time fitted generally into plans for the coming entire Third U. S. Army operation as it was initially planned that VIII and XV Corps would come under Third U. S. Army command when this Army became operational.

No discussion of this operation can do other than give full credit to General Bradley and the First Army for their magnificent job in the "planning and execution" of the breakthrough. The above quotation only serves to bring out the additional fact that General Bradley, with his usual ability to make correct decisions in combat, in this case did everything possible to make the Third Army entry into action smooth and effective.

We, of the Third Army Staff, were grateful for being permitted to be fully oriented on the Cobra operation. We were authorized to make such arrangements with VIII Corps as would make its transfer from First Army to Third Army on August 1, a smooth operation. It paid dividends. Witness the results.

COL. EDWARD T. WILLIAMS, GSC

Hq., Fourth Army
Fort Sam Houston, Texas

Having served as Third Army Artillery Officer throughout the entire period of operations in Europe, Colonel Williams is qualified authoritatively to clarify, as he does in his letter, General

Patton's role in the Normandy breakthrough.—Ed.

Orphan Stepchild

Dear Editor:

I am trying to buy a number of unit histories.

Among others, I am interested in an orphan stepchild, expendable outfit designated JASCO. Terrific casualties. Only decorations: Purple Hearts with clusters, battle and beach stars and ribbons. . . . Promotions: practically impossible. . . . Normandy and Lingayen Gulf. . . . Great HUSH-HUSH. History of the 4th Infantry Division gives them one line!

JOHN A. MASSA

Mansfield, Ohio

—See *Fire Control on Omaha Beach*, page 528, the publication of which was prompted by the foregoing letter.—Ed.

Strictly Voluntary

Dear Editor:

Reference is made to an article entitled "Occupied Germany, Slovakia," appearing on page 233 of the April 1946 issue of THE FIELD ARTILLERY JOURNAL which contains misleading information relative to the employment of Poles and Yugoslavs in this theater. The following information is furnished to correct any misunderstanding which may have arisen.

In both liberated countries and the U. S. Occupied Zone of Germany, displaced persons and ExRAMPs (Recovered Allied Military Personnel), except citizens of the Soviet republic and Yugoslavia, work as civilian employees of the U. S. Army. This practice helps to alleviate the manpower problem of the occupation. No Polish or Yugoslav soldiers are employed by the U. S. Forces within the European Theater.

The greater percentage of United Nations personnel employed by the U. S. Forces are Poles, who have elected not to return to their homeland at the present time. Transportation to Poland has been available to them for some time, but it is against the policy of the U. S. Headquarters to force repatriation of displaced persons or other United

Nations Nationals against their will. In filling employment requirements, the army gives these people preference over German personnel.

Ex-RAMP (Recovered Allied Military Personnel), who were liberated from German prison camps, are experienced in military and guard duties. Therefore, they are principally employed as civilian guards at military depots or similar installations and at prisoner of war enclosures and civilian internment camps. They are employed in a manner similar to that of Industrial Police or Penal Institution Guards in the United States.

For administrative purposes displaced person and Ex-RAMP civilian guards are organized into units of not greater than company size. They receive no military training except that necessary for performance of assigned duties, and are not permitted to wear military insignia. They are not armed with automatic weapons.

Displaced persons or Ex-RAMPS employed by the army in the U. S. Occupied Zone are paid from the German economy by the local Burgermeister. Those working in the liberated countries are paid from U. S. appropriated funds. Their rations are comparable to those furnished by UNRRA to employed displaced persons. They wear U. S. uniforms dyed blue with military insignia removed. This clothing is the same as that issued to other displaced persons within the theater.

It is not possible to determine accurately the length of time such personnel may be employed inasmuch as they may be repatriated at any time they so desire for repatriation. Employment by the U. S. Forces is strictly voluntary and all personnel so employed are informed of their right to cease such employment and of their right to repatriation.

MAJ. ROBERT F. SHEARER, AGD
Hq., U. S. Forces,
European Theater

Help Everyone

Dear Editor:

Let's have more articles like "Observation of a Battery Commander" by

Captain John Norris; more articles, in other words, by and about outfits that were in combat such as "VII Corps Artillery Battle Experience." These help everyone to acquire good ideas.

CAPT. CHARLES REMICK, FA
Fort Sill, Okla.

From "B-Bag" Land

Dear Editor:

I have been here in the land of the "B-Bag" for so long now that the habit must be catching. However, this letter will serve a double purpose. First, I am inclosing my dues so perhaps I may be considered a Field Artilleryman and receive the JOURNAL for another year, even though I am still somewhat on the loose from my pet branch. Second, I want to record one of my pet peeves which was brought to mind by your article "Let's Protect Our Cannoneers' Ears," page 160, March 1946 issue.

During a long enforced stay at the Research and Development desk of the Army Service Forces during most of the war, I had a golden opportunity to see many projects come and go. Whether right or wrong, numerous decisions had to be made on the spot, and I feel the Division did an outstanding job in pushing the good and cancelling the bad. Offhand, I can't think of many present items which withstood either complete change or serious modification from the beginning to the end of the war. Perhaps as exceptions, one might name the Garand, the 105 Howitzer, and the cotton sock; the latter, of course, being useless apparel. Also, I can remember numerous gadgets or items which were forced into the picture and were never, or little, used and these have long since been forgotten. One places in this category such brain children as jungle carts, DD tanks, and CDL tanks. On the other hands, some things which impressed me and my crew in the Division as having distinct possibilities were never pushed as they should have been by the producer or the user, or by collusion between them. In this category, I would place Field Artillery radar and rockets, though I admit interest was gaining somewhat during the last days of the war. With

additional thought, I could undoubtedly bring forth some prize examples which, in retrospect, would make us wonder why we were so dumb. Another group of pet projects, gratefully small in number, caused me more grief than a multi-million dollar expenditure for VT fuzes at a time when the user's representative told me it was too complicated and expensive for Field Artillery. A top seat in this category of the circus was occupied by the ear defenders, ear protectors, or call it what you may. I believe that a large percentage of inventors in the U. S. must have become interested in that field at one time or another. At least one group succeeded in reaching the President's ear after they found mine deaf to their proposal. Yes, we tested the gadget, or rather the Armored Force Board, the QM Board, and various other agencies actually performed the test. Decibels and thresholds became common terms in our daily vocabulary. Needless to say, this particular device was determined to be a useless gadget by all concerned. However, after much experimentation in the scientific laboratories, there appeared to be a general agreement that a type developed (and later adopted by the Navy) by Dr. A. M. Russell of the Harvard Psycho-Acoustics Laboratory was by far the best; moreover, it actually worked. The Division procured a number of these and furnished them to ground boards, including the Field Artillery, for tests, but the actual answer at the time was that there was, and insofar as I know, probably still is no interest in ten-cent gadgets. I personally felt that these 10-cent store gadgets were far superior to the cotton or waste normally passed around to cannoneers. I feel sure that the final Field Artillery Board report agreed as to actual effectiveness but was of the opinion that these were a special type of item for which supply difficulties were not commensurate with the utility. In short, I am inclined to agree with Major Howard's contentions, but feel that since the outstanding acoustics personnel of the National Defense Research Committee worked on the problem over a long period and finally brought forth a solution, someone missed the boat if the item was

needed. I think every Field Artilleryman will agree that he had many items which someone thought were needed but which he never used.

Now to my point for what it may be worth. We can expect articles in THE FIELD ARTILLERY JOURNAL from now on dealing with ear plugs, mountain climbing prime movers, mechanical cows, and all that go to make up an Army of twenty years hence. I personally feel that artillerymen, and personnel of every other branch, must be trained to be more equipment conscious than ever before. (Yes, I harped on this subject at Sill for perhaps too long.) Hence, a larger number of personnel must get their brains attuned to the idea of things which are in the future rather than to those which they see each and every day. In short, the one-horse brain must pick up speed if we are to remain ahead of the scientific rush of the future. To assist in awakening interest and discussion, I suggest that articles such as that submitted by Major Howard be referred to the proper Army Ground Force board prior to publication so that a footnote, in agreement or rebuttal, may accompany the article. In this particular case, the conclusions and recommendations of the Field Artillery Board, or their test results, would place the responsibility exactly, if others than Major Howard feel there is any responsibility.

In my present position of research and development in reverse in Germany, I have found little in existence of true future value to Field Artillery since the experts have performed a good job and knew or expected by war's end exactly what the Germans had. However, we cannot forget that the items of value ten years hence are those which are still in the scientists' or technicians' notebooks. These we hope to have logically arranged and assembled before too many months pass. Present indications are that there is a definite military promise in some fundamental scientific ideas, provided we have the people who can attune their brains to the speed of the future.

COLONEL RALPH M. OSBORNE, FA
Field Information Agency, Technical
USFET (Main) APO 757, NYC



Layman's Atom Report

DAWN OVER ZERO. By William L. Laurence. 274 pp. Alfred Knopf. \$3.00.
By William A Higinbotham*

This might be called the "Layman's Smythe Report" but it is more than that. Bill Laurence was the only official reporter for the Manhattan Project. He was an exceptionally good choice. Science reporting is not an easy job. For years Bill Laurence has been interpreting science to the layman; not just reporting or explaining, but conveying a real feeling for the spirit of research and the social effects of each development. He understands the scientific spirit and has a broader grasp of the many scientific fields than most scientists themselves. Those scientists, like myself, who have recently tried to talk of science in everyday language, marvel at the simplicity of his treatment of the most technical matters.

This is not primarily a technical book. There is only one chapter describing nuclear physics and the few terms that cannot be avoided. The theme of the book is the fantastic, cooperative effort of science, industry, the armed services and the American people, which culminated in the harnessing of nature's greatest force. It clearly poses the alternative which now faces us, whether this will be the greatest milestone in the history of man or the most tragic.

Photographs and movies cannot reproduce the fearsome grandeur of the atomic bomb because of the tremendous range of light and sound and color and

radiation. The first chapter describes the test shot in New Mexico, where I stood a few feet from Mr. Laurence. He has made it real. He has also made the atmosphere which preceded the shot and the feelings of the people real. The same skill brings out the drama and the spirit of the research which led up to the discovery of fission, the steps which led up to the full scale project and the growth of the project from a few scattered laboratories to cities and factories straight from Mars.

Nowhere has there appeared such a complete picture, yet it is not a long book. Of especial interest is the part played by British and Canadian scientists and their governments. The epic story of the destruction of the Norwegian heavy water plants is told in full. The chapter which describes the bomb, itself, should do much to correct mistaken ideas about "the secret." Six "secrets" of the bomb, all well known to scientists anywhere, are explained in simple terms. Careful descriptions of the problems encountered and solved in the construction of the plants at Oak Ridge and Hanford clearly illustrate the real difficulties that science and industry had to overcome. The proper course to be followed in the future is not obvious. Only by understanding what is important will the American people be able to pursue an intelligent policy.

In evaluating atomic energy in the future, this book rightly emphasizes the great promise of these developments in research in medicine and chemistry. I feel that the author is rather too pessimistic in respect to power developments and the amounts of ores available. But all scientists would agree

that not enough emphasis has been placed on the byproducts of this research, which may very well eclipse the discovery of atomic energy itself in the next decade.

Ding-dong Dandy

THE MIRACLE OF THE BELLS. By Russell Janney. 497 pp. Prentice-Hall, Inc. \$3.00.

Delightful, refreshing and entertaining are three adjectives that aptly describe the new Russell Janney novel, *The Miracle of the Bells*. After several seasons with nothing but historical novels, it is certainly pleasant to find a good story with a new theme.

The basic pattern of the tale revolves around the devotion of a press agent to the memory of a young Polish-American movie actress. The meteoric rise of this poverty-stricken young girl from the coal mines to Hollywood stardom is climaxed by her sudden and tragic death. In accordance with old Polish custom, her last request is that she be buried in her birthplace, Coaltown, Pa., and that the church bells be rung prior to the ceremony. This appears to be a rather inauspicious foundation on which to build a fine story. However, when Bill "White Spats" Dunnigan, the world's greatest press agent, and St. Michael the Archangel team up you have a combination that is bound to produce some amazing situations.

In carrying out the girl's last requests, Bill Dunnigan senses an excellent opportunity for some great ballyhoo for the movie the actress had just completed prior to her demise. Consequently, the bell-ringing ceremony is done in the typical Hollywood style and the attendant results leave the readers hanging on the ropes.

Everything that happens in Mr. Janney's new tale is for the best—none of this breath-taking suspense that accompanies the characters of most novels in and out of desperate situations. There is no low ebb from which the hero has to fight his way to ultimate success. The book is bright in the beginning and much brighter at the end. Mr. Janney is to be complimented on his departure from the usual theme and for writing a book that is difficult to lay aside. In fact, many readers will wish that it was longer. This beautiful novel should enjoy a large and lasting audience. R. F. C.

*Chairman, Federation of American Scientists.

Premature?

RECONQUEST. ITS RESULTS AND RESPONSIBILITIES. By Hallett Abend. 305 pp. Doubleday & Company, Inc. \$2.75.

By Maj Gen H W Blakeley, Rtd

This book is composed of about one-third travel diary, one-third history of Japan and one-third pessimism. Mr. Abend was one of a group of writers who were taken on a round the world junket by the War Department beginning in June of 1945 and ending apparently in August of the same year. The diary part is somewhat vague at times. Mr. Abend identifies only a few of his twelve companions and then only by their first names—perhaps because a revolting character named Harry apparently established a new low in rudeness for Americans abroad. From mention of some of his fellow writers in this informal fashion, Mr. Abend goes on to an Air Force officer, "Ray by name," and then to "Gen. George." Readers not familiar with the Air Transport Command will probably wonder: "Gen. George who?"

Military personnel assigned to the Far East will find the chapters on China and Japan well worth reading. Here, the author's experience for many years as the Chief of the New York Times Bureau in the Far East entitles him to respect for his opinions, and these chapters are the meat of the book. His comments on Italy, Germany and Austria are much briefer and generally more casual. He is bitter about "French colonial imperialism," but believes that it would be "unjust to the voiceless millions of India" for England to "pack up and get out and shirk responsibility."

Mr. Abend is sometimes careless with his facts. For example, he states that the 88th Division "suffered more casualties in battle with the Germans than any other divisional unit." The "Report of Army Ground Force Activities" shows the 88th in fourteenth place as to total battle casualties, and even allowance for casualties caused by the French or Italians could not put them anywhere near first place.

As for Mr. Abend's pessimism, he says in the book's second sentence "We were looking for the brave new world of which we had all heard so

much, but . . . all we ever found were the varying wreckages of the old world, the rubble of wrecked yesterdays, the ruined altars of false and discredited gods." To which a Pollyanna might well reply that the summer of 1945 was a little too early to expect to find a brave new world. And perhaps the summer of 1946 is a little early to be sure about the results and responsibilities of reconquest.

Text for an Occupation Army

IT IS DARK UNDERGROUND. By Loo Pin-Fei, 200 pp. G. P. Putnam's Sons. \$2.75.

By K S Giniger

This interesting book is a first-hand account of the remarkable espionage and sabotage activity carried on against Japanese occupation forces in China by a group of young Chinese students of which the author, Loo Pin-Fei, was the leader. *It Is Dark Underground* is as exciting as any spy story can be; it possesses the additional virtue of being true.

Although it sheds little light on the background of those current difficulties which seem forever to stand in the way of a peaceful and a united China except to mention that they do exist, *It Is Dark Underground* is a book from which American soldiers can learn much. Today, we are the enemy occupying the homelands of many young patriots. And the techniques that aided the Chinese youngsters in their campaigns of terror, bombing and political assassination against the Japanese may well be adapted by German or Japanese youngsters for use against an American occupation force.

It Is Dark Underground is an excellent manual of the tactics and techniques of a resistance group of children from twelve to seventeen in their private war against an occupying power. Those tactics were commendable when used against the Japanese and we can have nothing but praise and gratitude for Loo Pin-Fei and his friends. At the same time, his book gives us a picture which we must constantly prevent repeating itself in Japan and in Germany. And it is this latter characteristic that makes it almost required reading.

CURRENT and CHOICE

Military . . .

Top Secret Ralph Ingersoll	\$3.00
My Three Years With Eisenhower Capt. Harry C. Butcher, USNR	\$5.00
Bastogne Col. S. L. A. Marshal	\$3.00
Hard Pounding Lt. Col. G. D. W. Court, RA	\$2.50
World War II R. W. Shugg - Maj. H. A. DeWeerd	\$3.00
Wrath in Burma Fred Eldridge	\$3.00
Last Chapter Ernie Pyle	\$2.50
70,000 To I Cuentin Reynolds	\$2.50

Fiction . . .

This Side of Innocence Taylor Caldwell	\$3.00
The Snake Pit Mary Jane Ward	\$2.50
The Hucksters Frederic Wakeman	\$2.50
Then and Now Somerset Maugham	\$2.50
Duchess Hotspur Rosamund Marshall	\$2.75
Arch of Triumph Erich Maria Remarque	\$3.00
The American Howard Fast	\$3.00

Non-Fiction . . .

The Autobiography of William Allen White Allen White	\$3.75
The Egg and I Betty McDonald	\$2.75
Peace of Mind Joshua L. Liebman	\$2.50
A Solo In Tom-Toms Gene Fowler	\$3.00
I Chose Freedom Victor Kravchenko	\$3.50
Earth Could Be Fair Pierre Van Passen	\$3.75

U. S. Field Artillery Assn.
1218 Connecticut Ave., N. W.
Washington 6, D. C.

**The inside story
of the most
fascinating and
terrible discovery
of our time**

DAWN OVER ZERO

THE STORY OF THE
ATOMIC BOMB

by WILLIAM
LAURENCE

Science Reporter of
The New York Times

Here, so far as it may yet be revealed, is the complete story of the atomic bomb, a clear, readable, intensely interesting account of what really took place in its conception, production, and use. The amazing personalities behind it, the secret locations of their experiments, the desperate haste to beat the Germans who, they knew, were rushing to do it first—the whole exciting panorama of struggle and world shaking success is here revealed.

To quote the New York Times, Mr. Laurence was "the only newspaperman permitted by the War Department to go to all the plants and inspect the processes of production of the atomic bomb, the only newspaperman allowed to witness the secret trial of the bomb in new Mexico, and the only newspaperman who witnessed the actual dropping of one of the bombs on Japan from a plane above Nagasaki."

Mr. Laurence here explains the theory behind atomic energy; describes the incredible factories and factory cities built to produce the weapon; and offers a preview of future uses of atomic energy. 17 illustrations, \$3.00.

U. S. FIELD ARTILLERY ASSOCIATION

1218 CONN. AVE.

WASHINGTON 6, D. C.

Redleg Novel

SPEARHEAD. By Martin Abzug. 272 pp.
Dial Press. \$2.50.

By Tec 4 Julien C Campbell

This is a story of men's emotions. The cast is a Battery of artillerymen and the scene is the Battle of the Bulge. It is a narrative of an officer, Captain Hollis, appointed to lead men, but lacking some of the necessary background and qualifications. His troops place little trust in him and follow him only until his good judgment runs out, then they revert to another man, Lieutenant Knupfer, who, although a junior officer, has command of the situation and the battery solidly behind him.

I believe that this act denotes good judgment on the part of the men of Battery C. They feel that they have certain unwritten rights which allow them to shun Captain Hollis and place their trust in Lieutenant Knupfer. Though this may not be the approved solution, with men under conditions described in this novel or under similar conditions it is an acceptable solution. True, when a man is appointed to lead, he is the leader, but as this book stresses many times, Captain Hollis' leadership is a far cry from faultless, and he is a man who refuses any outside or "junior" assistance. Admittedly, had Hollis been willing to accept constructive criticism, the author would have a dull book or no book at all, but for the sake of the story and for the situation, I believe the actions of Lieutenant Knupfer and the men of Charlie Battery are justifiable.

The climax comes when men of Battery C find themselves in enemy territory and are forced to hide their weapons and to walk like "doggies" to get back to their own lines. A good case of battle fatigue and a German tank brings the story to a patriotic closing, giving Captain Hollis a new understanding of the enemy and what exactly is expected of him as a leader.

The book, I believe, will take its place rather high among the fiction stories of World War II. It is not a fragment of high level planning or strategy but deals only with a small number of the millions of men who carried out the plans of our generals. It is a realistic picture of the

more common, but less heard of individuals in battle.

Aviation Opportunities

YOUR FUTURE IN AVIATION. Edited by J. Fred Henry. 329 pp.; appendices; index. Prentice - Hall, Inc. \$3.00.

By John R Cuneo

The thousands of men and women who witnessed or came into contact with aviation during the war boom are doubtlessly wondering if the field has any future. Here is an enthusiastic answer in the affirmative. It comes not only from the editor himself but from scores of leaders in all aspects of civil, military and private flying. The few pessimists are lost in the overwhelming faith of the majority in the coming air age.

If written to indicate in a general manner the opportunities ahead in aviation—and I think the editor had this in mind—the book serves the purpose. But the jacket claims that it "tells you exactly how and where to find the job" and the blurb inside mentions pinpointing the opportunities. It distinctly fails to live up to these claims. The editor has considered aviation jobs in the broadest sense of the words (from financing to flying) and obviously has no space for such pinpointing. There is only a sampling of specifications. The index has only nine headings under "Jobs"—which indicates the general nature of the book as well as the inadequacy of the index.

As trimming, the book contains a chart showing the organization of the Civil Aeronautics Authority and appendices listing the civil flying schools and aircraft mechanic schools approved by the CAA, scheduled air carriers in the United States, Alaska and Canada, and U. S. aircraft, helicopter and propeller manufacturers. While scarcely unique, these are obviously of some value to job seekers.

As a general work to create interest in aviation and to suggest the potential positions in the aeronautics of tomorrow, the book is worthwhile reading. But anyone consulting it for specific information in reliance upon the publisher's claims will probably be disappointed.

Juvenile Adventure Story

THE TWENTY-FIFTH MISSION. By Loring MacKaye. 214 pp. Longmans, Green and Co. \$2.25.

By John R. Cuneo

This novel depicts the experiences of an American bomber crew seeking to escape to Sweden after being forced to bail out over Denmark. It is a straightforward, fast-moving story of adventures with the Danish Underground.

The only character of note is Jigs, a seventeen-year-old tail gunner. The thinly-told account of the gradual disappearance of his provincial dislike of "furriners" as he watches and fights by the side of the Danish patriots, serves to bind together the various incidents. Jigs certainly calls to mind the extreme youth of the AAF crewmen but the author's treatment of his character is not an adult study.

The type of story combined with the simple characterizations produces a result which should be particularly appealing to readers of the teen-age group. Older readers too jaded for mere adventure stories should turn elsewhere.

"One of the most exciting stories of underground activity to derive from the war."—*NEW YORKER*



IT IS DARK UNDERGROUND

By LOO PIN-FEI

The amazing and moving first-hand story of the young Chinese who daily risked their lives as spies and saboteurs against the Japanese.

"An inspiring record."—*N. Y. Post*.

\$2.75

The
FIELD ARTILLERY JOURNAL
1218 Connecticut Avenue
Washington 6, D. C.

Indian Side of the Picture

THE LAST TREK OF THE INDIANS. By Grant Foreman. 382 pp., maps, bibliography, index. University of Chicago Press. \$4.00.

By Maj. Gen. R. E. D. Hoyle, Rtd.

Grant Foreman spent 46 years in recapturing this history of the American Indians. As a member of the Dawes Commission in Oklahoma he was in constant touch with the vanishing race that once inhabited our entire country.

This book gives, in great detail, the displacement of the many Indian tribes. First their forced movement to the West as the white man demanded their land, and finally their concentration in the Indian Territory, now the state of Oklahoma.

It gives a sad picture of the forced uprooting of this weaker race from their beloved forests and streams, the weakness of our government aggression and the degeneration of these once powerful warrior tribes due to sickness, disease and the harmful effects of liquor introduced into their areas by the encroaching whites. Being a warlike people, they not only fought tribe against tribe but also participated in the many wars between the white settlers in America, thus rapidly reducing their strength. For example, thirty-four tribes or parts of tribes who fought with Great Britain against the United States finally swore allegiance to our country.

In Oklahoma today there are to be found representatives of at least fifty-five tribes, nearly a third of the Indian population of the United States.

To the laymen who have read of Indian wars, and of the murder, torture and scalping of the white settlers by the Indians, this book gives the other side of the picture and shows many peaceful tribes who suffered great hardships at the hands of the white man.

This book required tremendous research and is recommended as worthwhile to those interested in the history of the various Indian tribes, now being rapidly absorbed by the white man.

ILLUSTRATION CREDITS

(If not listed, unsigned illustrations are from authors, by the Journal staff, or from special sources. References are to pages.)

Signal Corps: Cover, 503, 508, 509, 525
Infantry Journal: 518, 519

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The World to Come

ADVENTURES IN TIME AND SPACE.
Edited by R. J. Healy and J. F. McComas, Random House, New York, 1946. 997 pp. \$2.95.

By Richard Cordon McCloskey

The once looked-down-upon pulps of the type represented by *Astounding Stories*, *Amazing Stories* and *Planet Stories* have been blown into respectability by the atom bomb. Rockets, jets, atomic power, death rays, interplanetary travel and robots are old stuff to the hard-working writers and hardheaded readers of these magazines. In fact, the Army and the FBI had connivance fits over what they thought were leakages from the Manhattan Project when the writers of science-fiction anticipated the super-secret workings of the A-bomb scientists.

There are clubs of science-fiction fans throughout the country which meet to read and discuss the latest developments in twenty-first century living. To be acceptable to this group, stories not only have to be good, they have to be grounded in scientific fact, however improbable it may sound. The devotion of this fanatic group of science-fictioners to factual fantasticality is summed up by this excellent anthology of 36 representative stories. To read these stories is to plunge into another world entirely. Some of them make you regret the return to this humdrum world; others leave you with an ominous feeling of dread for the future. All of them will hold you enthralled.

Hobby Helps

USE OF TOOLS. By Fremont Davis and Marjorie Van de Water of Science Service. 239 pp.; illustrated. The Infantry Journal Press. \$3.50.

KNOTS AND ROPE. By Fremont Davis and Marjorie Van de Water of Science Service. 96 pp.; illustrated. The Infantry Journal Press. \$2.00.

Two useful books are these, dealing with hobby interests of most men and some women. Both books are profusely illustrated — 195 in *Knots and Rope* and 420 in *Use of Tools*. To me, the illustrations covering the use of tools are clearer than those dealing with knots, although it may be that this is because I know more about hand tools than I do about knots and rope.

Knots and Rope explains the care and inspection of rope, the common and more useful knots, splicing, the use of block and tackle, and certain of the lashing methods. *Use of Tools* goes into both metal and woodworking tools, soldering, painting, wire splicing and other "handy" techniques. Neither book is what I would call remarkable, but both will be most helpful as guides for the layman with an interest in working with his hands. D. A.

Canadian Army in the War

GAUNTLET TO OVERLORD. The Story of the Canadian Army. By Ross Munro. 477 pp. The Macmillan Company of Canada Limited. \$3.50.

By Maj. Gen. H. W. Blakeley. Rtd.

This is another book by a war correspondent. It has no explosive opinions in the Ingersoll manner, but it is a well written, easily read narrative. Maj. Cen. Terry Allen's 104th Infantry Division, which served briefly under Canadian command, is the only American unit to have more than passing mention.

The arrangement is peculiar in that, after a brief review of the Canadian participation in the war up to the preparation for the invasion of Europe, the book goes into the Overlord operation for some 250 pages and then cuts back to Operation Gauntlet (the Spitsberger operation in 1941), the Dieppe raid, North Africa, Sicily and Italy to end up where the author started.

Many American officers (particularly those who visited Dieppe while in the staging area outside of Le Havre) will find the chapter on the Dieppe raid the best in the book. The Canadians bore the heaviest losses in this operation, but Mr. Munro, who participated in it, is strongly of the opinion that it resulted in two worth-while gains for the Allies. The first and tangible one was the air victory. The second was an intangible one at the time, but "the pattern for invasion landings was fashioned by those 2nd Division Canadians on that terrible August morning. In 1943 and 1944 the dividend from Dieppe was paid off in the successful landings in the Mediterranean, climaxed by the D-Day assault in Normandy."

GI Reconversion

HOW TO BE A CIVILIAN. By Morton Thompson. 220 pages; illustrated. Doubleday & Co. \$2.00.

By Andre E. Cerard

Written by a soldier—formerly a newspaperman—for soldiers, this easily read book alerts the GIs to the pitfalls that await their reconversion to civilian life. Thompson, backed by 13 months of Army life, begins with the first day's adventures of Ossip T. Puddy (the GI of the book), and carries the reader through the intricacies of being a civilian, from buying and wearing of civilian clothes; through the problems of non-military courtesy; meeting girls (civilian girls); finding a job; getting sick—and then being able to find a doctor who can understand that you might be sick; what veterans organizations there are to join; and finally—even though it may sound odd—how to get in bed with your wife.

There are some pertinent and rather pungent remarks concerning the Joe's attitude toward the whole war. Why he fought; how can he acclimate himself to the daily city, state, national and international politics now beginning to reappear; his chances in the Civilian world — always spelled by Morton Thomson with a capital C; how to undo the training to kill that has been implanted in him during his months of training; in short, it is the soldier's worm's-eye view of readjustment to so-called normal living.

The book is not for very young minds, or at least, it is not for the young minds of non-soldiers. It's breezy, earthy and profane; the language the soldiers, sailors and marines used when they were together. And, it will also supply an education to those who, for one reason or another, could not don a uniform.

At first, the book was rather puzzling. It struck this reviewer that, if this type of book was necessary to the GI-Joe to readjust him to Civilian life, then civilians—that is, those who stayed at home—were in for a terrific awakening. The guys for whom this book was written were not the fellows who had marched off to war. Added reflection, however, soon demonstrated that beneath the breezy and oftentimes profane words, a strong steady stream of

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*Text and pictures by
GLADYS EMERSON COOK*

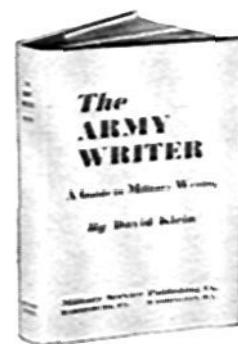
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good advice—both to civilians and exsoldiers—was available.

Propaganda Machines

UNWRITTEN TREATY. By James P. Warburg. 186 pages. Harcourt, Brace and Company. \$2.00.

By Andre E. Gerard

A Naval reservist in World War I, James P. Warburg became one of the New Deal's early "braintrusters." An International banker, and Financial Advisor to the American Delegation attending the World Economic Conference at London, he was one of the original organizers of American propaganda warfare in the summer of 1941.

Here for the first time is gathered the bits and pieces which explain and place in their true perspective the various information and propaganda agencies of the U. S.

Warburg describes in broad detail the inner workings of Goebbels' propaganda machine, how it cut its eye-teeth on the German peoples, the first swings into neighboring countries, and then traces the emergence of psychological warfare into a full partner in the Nazi book of war.

The Japanese and Soviet propaganda efforts are also treated, but in less detail. The author then takes the reader behind the curtain of Britain's efforts in this field, and shows him how Britain divided its efforts into the two components of: 1—Information for home and friendly foreign consumption; and 2—active warfare against the enemy.

United States efforts in this field are studied in some detail. The picture here, however, is not too pleasant as Warburg tells it. If his thesis is true, and there seems to be reason to believe it is, then we have much yet to learn in the field of preparedness.

The reader may not agree with the author's findings, nor yet with his recommendations—but he deserves to be read and by a very large audience. While we may be aware of actual, physical menace to the preservation of the United States, we may not be quite so aware of insidious, undercover, "black" propaganda, calculated to make us as pliable and as helpless as Austria, Czechoslovakia and France during the period 1938-1940.

Here's How We Did It

ARSENAL OF DEMOCRACY. By Donald M. Nelson. 431 pp.; index; illustrated. Harcourt-Brace. \$4.00.

The conversion of American industry was one of the miracles of the recent war. The inner workings of this miracle have been faithfully recorded by Donald M. Nelson in his new book *Arsenal of Democracy*.

As head of the war production program, Mr. Nelson had more power concentrated in his hands than any man in the United States has ever held with the exception of the President. How this power came into being and how it was used mattered little in the hectic early days of the war but now with actual warfare shelved, for a time at least, every American is interested in knowing the details of the all-out production effort which made the United States the "Arsenal of Democracy."

Mr. Nelson's qualifications for relating such an account are obvious. However, despite his position as head of War Production, the myriad of complexities in such a gigantic effort could never be accurately recounted by any one person regardless of his position. Nevertheless, he has presented a dispassionate report on the war effort as he saw it.

The chapters are crowded with the facts and figures as well as the personalities that forged our mighty industrial war machine. The figures used are astronomical beyond comprehension—but then so was our war production.

To his credit, Mr. Nelson endeavored to make his report objective. The disagreements, petty quarrels, and conflicting personalities are all mentioned. Despite his efforts, he does not completely succeed in his objectivity for throughout the book the reader senses justifications of decisions made by Mr. Nelson. He also takes advantage of this opportunity to take a swing at the War Department, which apparently disagreed with him on a number of matters.

This fact-crammed narrative will renew the reader's faith in America, as it proves beyond a doubt that we did produce when the chips were down.

R. F. C.



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BLUE RIBBON WINNERS

Pardon us while we preen—or did you notice that in our very first Children's Page (May issue) we chose *The Rooster Crows* by Maud and Miska Petersham (Macmillan Co., \$2.00)—later chosen as the Caldecott Medal winner for 1946? We gloated a bit on picking this gay book right off, with hundreds vying for attention, and then decided to review other blue ribbon winners. Christmas is coming—and you won't go wrong if you follow the experts' choice for your favorite child. We can't review all, but here's a tip—note the author and illustrator. Their other books are top notch, too. In later issues, we'll give you more award winners along with new talent worthy of your attention.—S. L. A.

STRAWBERRY GIRL. By Lois Lenski.
Newbery Medal, 1946. J. B. Lippincott Co. (9 up) \$2.50.

The rich slow speech of the "Florida Cracker" laced with fine old English idioms and rhymes has been caught to perfection in Miss Lenski's latest regional book of America. Suspense is the keynote of each chapter as the bitter conflict between the busy Boyers and their jealous neighbors mounts in tension. Brush fires, fights and fence-cutting interrupt the normal routine of crop raising, candy pulls and trips to town in a book to please both boys and girls.

MANY MOONS. By James Thurber, illustrated by Louis Slobodkin. *Caldecott Medal, 1944. Harcourt, Brace and Co. (7-11) \$2.00.*

What could the King do when his daughter pined for the moon? The Lord High Chamberlain, the Royal Wizard and Mathematician shook their heads, but the Court Jester was wiser. The most critical child will chuckle over this clever and witty plot, having first whetted his appetite on the numerous drawings singularly appropriate for a fairy tale.

RABBIT HILL. Story and drawings by Robert Lawson. *Newbery Medal, 1945. Viking Press. (8-12) \$2.00.*

Lean years of no tenants have been hard on the tempers of the furred and feathered folk who exercise proprietary rights over a farm house in the rolling Connecticut hills, so we share their excitement over the New Folks' arrival. Father Rabbit, a Southern Gentleman, dreams of lush bluegrass fields, Porky of newly-planted buckwheat and clover, while Gray Fox and Phewie Skunk look hopefully to full garbage pails from a lavish kitchen. Humorous, gay and tender experiences tumble past and you'll even find yourself humming Georgie's song "New Folks coming, Oh my! Oh my!"

JUSTIN MORGAN HAD A HORSE. By Marguerite Henry, illustrated by Wesley Dennis. *Wilcox and Follett. (9-up) \$2.50.*

Runner-up for the 1946 Caldecott award was this beautifully illustrated best-seller. The story of this sturdy Vermont cob, sire of

our famous Morgan horses, richly deserves its high rating.

MAKE WAY FOR DUCKLINGS. Written and illustrated by Robert McCloskey. *Caldecott Medal, 1942. Viking Press. (5-8) \$2.00.*

Any child who can't haul out this book for the umpteenth reading has good cause for pouting. Adults find the big drawings equally irresistible as mama duck and the police hold up traffic for eight downy ducklings, while they flounder down curbstones and march single file through Boston's busy streets to the Public Garden.



CORRECTION. PLEASE!
In the July issue, the price of "Sun, Moon and Stars" was listed incorrectly. The price is \$2.50.

ADAM OF THE ROAD. By Elizabeth Janet Gray, illustrations by Robert Lawson. *Newbery Medal, 1943. Viking Press. (10 up) \$2.00.*

With a lavish stage set in 13th century England and a fluid background of knights, merchants, friars, clerks, pilgrims and scholars, Roger the minstrel and his son Adam give a performance worthy of wholehearted attention. From London to Winchester to Oxford, Adam must follow two trails for he has lost both his dog and his father on the King's Highway. Here is a wealth of information on that era of pageantry and poverty, as Adam walks and sings along the road, with Lawson's skillful



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art to clarify the journey.

THE WHITE STAG. Written and illustrated by Kate Seredy. *Newbery Medal, 1938. Viking Press. (12 up) \$2.50.*

Onward across Asia and Europe the Huns and Magyars followed the white stag to the fertile land promised them by their great leader Nimrod. Captained by the cruel Attila, the Huns swept on like a fury over the armies of the Goths, the Franks and the Romans long after the Magyars refused to move further. Written in rhythmical prose punctuated by dramatic illustrations, one receives a strong impression of the occult East.

THEY WERE STRONG AND GOOD. Story and drawings by Robert Lawson. *Caldecott Medal, 1941. Viking Press. (8-12) \$1.50.*

Lawson has sketched the lives of his four grandparents and his mother and father to demonstrate the strength of America which absorbs all nationalities and produces a perfect blend. Unusual in that brief sentences balancing full-page pictures can leave such a powerful impression of a great heritage to harbor and to cherish.

MEI LI. Written and illustrated by Thomas Handforth. *Caldecott Medal, 1939. Doubleday and Company. (up to 8) \$2.00.*

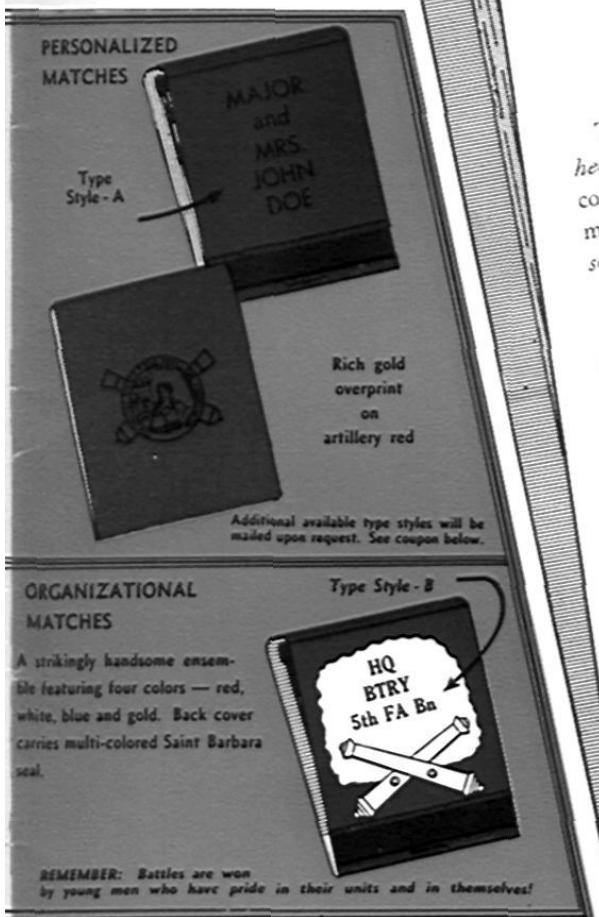
Three lucky pennies and three marbles of blue, coral and jade are transformed into a day of enchantment for little Mei Li (May Lee). There was so much to do and to see at the New Year Fair in Peiping that Mei Li almost forgot one must go home through the Big Gate before it closed at midnight. The author's intimate knowledge of China plus his use of large pages and beautiful lithographs add up to a book of grace and charm. Children are lucky indeed to have Mr. Handforth turn author for them since collections of his etchings and lithographs are in the Metropolitan Museum.

JOHNNY TREMAIN. By Esther Forbes, illustrated by Lynd Ward. *Newbery Medal, 1944. Houghton Mifflin. (12-up) \$2.50.*

Peculiarly timely, the problems of a cocky Boston apprentice who grew up overnight under the impetus of the Revolution will captivate and enthrall all readers.

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