The FIELD ARTILLERY Journal

SOLDIER ART IS EXCELLENT

FEBRUARY, 1946

"BEST OF THE YEAR"

Ten people whose business (as well as pleasure) is to read books have selected what they consider the outstanding publications of the past year. In a surprising number of instances they agree. Here are their choices in the *non-fiction* field.

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See Notice on Page 103 and Order from

U. S. FIELD ARTILLERY ASSOCIATION
1218 Connecticut Avenue **Washington 6, D. C.**

STUDY IN DEFEAT—If the mounting reports out of cold and hungry Europe at this deep winter season are valid, the bitter sullenness of this PW's beaten expression is even more meaningful now than when first drawn. Strip off the uniform and the stubble and you have, perhaps, the countenance of uncounted millions of Europe's "liberated" destitute. The dull state reflects a bewildered and resentful disillusionment—directed in increasing degree, it seems, at the United States, heretofore the sustaining hope. Self-interest, if nothing else, impels that every American who looks into these unlovely eyes take stock of his thinking and his actions to the end that we do not lose the victory in Europe. The original of this picture, a most striking gouache, was drawn by T/4 Harry A. Davis, a soldier artist who served with the 85th Infantry Division. It is reproduced here by courtesy of the War Department.

The FIELD ARTILLERY JOURNAL

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.

COVER

Although midgets in size, artillery observation planes did a giant's work in battle. Their increasingly effective employment was one of the outstanding developments of World War II. The original of the picture on the cover was drawn by Captain Edward A. Reep. and is reproduced by courtesy of the War Department.

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Heavy Is Our Responsibility

This article, written by Marshall Andrews, appeared in the *Washington Post* of 13 January 1946 under the title "Homing Howl of Irked GIs Blows Down Army's Morale Mill." *The Field Artillery Journal* republishes it, without approval or disapproval, as a challenge to American officers—a challenge worthy of serious thought.

Broad slices of the original article were stricken out. For the most part, the deletions included shotgun condemnation of the wartime record in dealing with the orientation, education, and morale of the individual soldier. Blame for the failure, which is alleged, is directed squarely at the War Department for what might be called a "too-much-bumph-too-late" handling of the whole problem. These charges may or may not be justified. These deletions were *not* made to protect the War Department, which is *of the public* and is subject at all times to the penetrating scrutiny of the press and our citizenry. The deletions were made—without jeopardy to the hard core of Mr. Andrews' challenge, which remains—because, in the Editor's judgment, they contained generalized conclusions which were inadequately supported by factual data and which failed objectively to weigh contributing factors of great importance. Chief among these, perhaps, is the sobering fact that the problem of leadership in a democracy is many times more difficult than in the "upside-down" governments, where the welfare of the individual is subordinated invariably to the so-called "need of the State." Not so, here; our way of government starts with the assumption that its first purpose is to guarantee the security, dignity, and welfare of the individual. Moreover, the individual is not only entitled to but *is encouraged to "sound off"*—that is the life's blood of the democratic idea. This arrangement, however, places a most heavy burden of responsibility on our civilian and military leadership, even under the best of circumstances. Obviously, the circumstances of global war are abnormal in the extreme, especially when an ill-prepared nation turns itself inside out multiplying its armed forces overnight. Great mistakes were to be expected. The war had to be won. Great mistakes were made, no doubt, in winning it. The American officer must realize to the full that he carries a many-sided burden of responsibility, as the soldier-servant of a free people. Much lighter would be our burden if we were working for an "upside-down" government. Thank God we aren't.—*Editor*.

America is now being treated to a spectacle unmatched in its history since ragged members of the Continental Army besieged Congress at Philadelphia 160 years ago to demand long overdue arrears in pay. * * *

Resentment against an announced slowdown in demobilization of the Army, expressed at first in isolated demonstrations overseas, has been fanned by publicity and opportunistic demagoguery until it now threatens to spread throughout the armed services.

It may engulf the War Department, Congress and the Administration in a paralyzing wave of confusion, indecision and cross-purposes.

It may lead to destruction of all present plans for the post-war Army and result in a repetition of the military desuetude which has followed all our wars.

It may even lead other nations, in this critical time, to discount the power of America in the world arena.

Or it may awaken the War Department to the facts of life: to a realization of what the American citizen soldier is like, how to reach him and get the best from him. If these disturbances have that effect, they will have been worth the temporary bitterness.

For they are and always have been unnecessary. They could have been prevented by the application in time of either (1) Iron discipline ruthlessly applied, or (2) A policy of informing the soldier, from his induction, of the reasons for everything he must do, seeing that he understands them and securing his enthusiastic cooperation on the basis of that understanding and of his personal stake in every order he receives.

Iron discipline never has been American Army policy.

The second device has been tried, with marked success by individual commanders in every Army America has sent into battle. In this war it was tried from the very beginning, as a matter of deliberate War Department policy. That it did not succeed is proclaimed by every press wire from Manila, Tokyo, Honolulu, Paris, Frankfurt. Why, then, did it fail? * * *

Well, for one thing, the war was nearly over before the War Department discovered that morale is more than a matter of shows, beer parlors and pep talks.

Morale is pride in yourself and your outfit; it is confidence in yourself and your officers and the man next to you; it is confidence in your weapons and your ability to use them; it is understanding of the reasons for the queer things you have to do in an army; it is conviction that however rugged the breaks may be, they are fair. Resignation doesn't make good soldiers; understanding does.

The Army's answer to sagging morale and soldiers' complaints was to shovel on more coal. To the uninitiated soldier-for-the-duration it appeared as if it were the Army's policy to buy morale with favors. * * *

When soldiers yelped for promotion, it was not explained to them that rank was reserved for leaders as a reward for their responsibility. Instead, everybody was made a noncom * * *.

Ribbons for service and outstanding accomplishment

became so common that they lost all meaning * * *.

Even after the Army's program of orientation finally got rolling, it operated under enormous handicaps. First, it got, in great measure, into the hands of eager beavers who were long on theory and woefully short on understanding of the soldier. * * *

The I & E project was set up, with officers in every echelon down to regiments. However, the directive which established I & E did not specifically instruct commanders to make I & E work the exclusive duties of their I & E officers.

The result was that a great many commanders looked on these new jobs as additional vacancies into which to place their trained seals for quick promotion to major and captain. Others filled them with inept officers or used them as spots for chaps doing public relations, horse holding or other jobs not provided for in tables of organization. In rare instances where commanders made an honest effort to use I & E officers as contemplated by the War Department they struck an insurmountable snag. * * *

Not even the brainiest, the most conscientious and the most indefatigable platoon commander could store up sufficient knowledge to face his platoon for a session on current events and the tangled world situation without being led into confusion by the inevitable soldier who spent all of his own time and much of the Government's buried in literature from Fortune to the Daily Worker. * * *

In its films, especially the "Why We Fight" series and those dealing with "Your Job," the orientation people did a magnificent job. But its effect was spoiled when units were compelled to go en masse to see them.

Literature was suspect because it was official and the enlisted man had his own reaction, which he expressed in brief and forceful language.

Commanders, from top to bottom, generally failed to understand what was being attempted and either gave orientation a complete brush-off or endeavored to turn it to ends they did understand. If, as a result, instruction failed in the ranks and all the effort put out in Washington was wasted, little could be done about it. * * *

All theaters of operation had large and sometimes complicated orientation sections supplemented by the work of 215 officers, 250 enlisted men and 800 civilians in the States. But they could secure compliance with the spirit of the thing no better than could the War Department. It worked or it didn't, as individual commanders saw the light. * * *

Eager beavers in the orientation mill seemed to have the philosophy that you can play on men as you play on a calliope, choosing your own tune and timing. But you can't. It takes time to establish convictions in men's minds and more time to change their thinking. Preparation of the soldier's mind for VE-Day, redeployment and disappointments of demobilization should have begun the day he entered the Service.

It is too late now to do anything about the current predicament. There is nothing the Army can do but give way again to the men it is supposed to have disciplined, let eager politicians have their field day and pressing domestic issues go unregarded while the Nation knits its brow over the plight of the soldier.

It is not too early, though, to begin looking ahead to avoid a repetition of this embarrassing and discreditable dilemma. Here are some of the obvious things which might be done.

With final dissolution of this emergency Army, be firm in the resolve to take the Hollywood out of military service, discontinue bribing unassimilated civilians with lavish dispensations of rank and jawbone.

Establish in the War Department a department of information equal in status with the old departments, such as the Inspector General's, Adjutant General's Judge Advocate General's. Make the I and E officer, or whatever he is to be called, a member of the commander's special staff accountable directly to him. Develop orientation personnel, officers and men, from scratch.

Require all commanders, from army to company, to attend a special commander's course in orientation to convince them of its necessity and to instruct them in its effective employment.

Teach young officers and officer candidates, who will be platoon leaders, that they have no privileges which they cannot earn by their own performance. Teach them that they cannot gain the confidence, respect and affection of their men by debasing themselves but by being what their men expect an officer to be. And teach them how to use the confidence of their men to engender in them an understanding of each man's part in the Army, its importance and profit to the man himself in its good performance.

Get orientation literature and methods back to earth, reduce it to terms the soldier can understand, point it toward matters in which he is interested and make it palatable. Slant it not for the vociferous 1 per cent but for the inarticulate 99 per cent.

Let platoon leaders orient their men on important things which concern the men themselves as individuals and let especially trained people orient them on broader affairs.

Establish some sort of peacetime training for all able-bodied men so officers can be trained with troops and can comprehend the type of men they will lead in battle.

Otherwise the Army will stumble over its personnel in the next war as it has in all that have gone before.

TANK DESTROYERS . . . AGAINST JAPAN

By Lt. Col. Allerton Cushman

M36 mounts 90-mm gun on medium tank chassis.

The 671st Tank Destroyer Battalion arrived in Leyte in the summer of 1945 and immediately began intensive training for the projected operation OLYMPIC against southern Kyushu. The role assigned to the battalion was to furnish direct support to the assault division of the IX Corps.

It is unusual indeed for an organization of battalion size to know so far ahead of time the exact when, where, and what of its mission. But know we did. Not only did we have detailed 1/50,000 maps but we also had excellent oblique photographs of the target area. These revealed a terrain ideally suited for defense. From the beaches the land rose sharply toward rough, high cliffs and peaks. The lowlands and foothills were a patchwork of terraced rice fields with some dry farming areas at the higher levels. Interspersed with the cultivated areas on the upper slopes were thick stands of pine scrub. Dominating the entire area was a Japanese picture-book mountain rising in perfect symmetry to a height of 3,000 feet.

G-2 did not anticipate the use of enemy armor to anything like the extent employed by the Germans in Africa or Europe, so the business of destroying tanks was relegated to a minor place in our training program. Since the Kyushu terrain was obviously well suited to the construction of artificial strong points and the development of natural ones, we concentrated instead on the technique of pinpoint firing against stationary targets.

The 76-mm Gun Motor Carriage M-18, with which the battalion had been equipped since November 1943, was to have been replaced by the 90-mm M36 (see cut) before the loading date. While the M-18, with its half-inch armor, could perhaps be differentiated from a tank, we knew perfectly well that no such distinction would be applied to the M-36 with its M-4 medium tank chassis. And quite rightly, too, for in the new vehicle we would have a tank in every characteristic except for an open turret. The company commanders and platoon leaders were called together, therefore, and told that the old song-and-dance about "not being tanks but tank destroyers" was over; henceforth, they could be expected to be used as corps artillery, infantry assault guns, tanks, or—possibly—as tank destroyers.

There are two elements in the tank destroyer battalion which the tankers lack entirely: the organic security sections and the reconnaissance company. If we were going to be used either as tanks or assault guns, these two elements could be employed to unusual advantage, especially in the terrain where we were slated to fight.

The security section, which is an organic element of the tank destroyer platoon, was originally intended to provide close-in protection for the destroyers against enemy foot troops. When the tank destroyers first went into action in Africa the security sections did just about everything except that for which they had been conceived. Throughout the war the Germans fought us with guns of equal or larger caliber and with some weapons managed to keep ahead of us in muzzle velocity by about 1,000 ft./sec. Consequently, there were times when they did not have to close with our armored vehicles to knock them our. But with the Japs the situation was different. Although they did develop and make effective use of a 47-mm antitank gun, their antitank doctrine for the defense of the homeland placed the greatest emphasis on close quarter tactics, usually of suicidal character. There can be no question, moreover, that such desperate methods would have proved costly to us, especially in the rugged, wooded terrain of Kyushu. The probability that the M-36 tank destroyers would have been used much further forward than conventional tank destroyer tactics called for, also intensified the danger from enemy foot soldiers indoctrinated with a fanatical determination to become human antitank mines.

An unusually intensive training program was laid out for the security sections following the principles first developed back in 1942 by the Tank Destroyer Center at Camp Hood, Texas. Certainly if the Japs had operated according to their avowed plans of *kamikase* attacks on armor, the security sections would have proved of inestimable value. It might be argued that the proximity of our infantry would obviate the need for organic security sections. The combat infantryman, however, thinks primarily about himself and his objective, and only incidentally about protecting the armor that is supporting him. The Jap tactics were to remain concealed (when possible, in carefully prepared spider-holes) until the infantry had passed by, and then attack the tanks that followed with mines, grenades or heavy demolition charges strapped to their bodies. To counter such methods, the very closest cooperation between the dismounted security personnel and the destroyers would be required; as with the blocking backs on the football field, adequate "interference" could be assured only by *team* training.

The reconnaissance company is the other organic element lacking in the tank battalion. Our particular target called for revision of the accepted use of this unit. We knew that in all probability we would not fight as a battalion but rather as three independent gun companies each supporting an infantry unit. This would leave the reconnaissance company without a job—unless, of course, it were taken over by some higher headquarters for use as an independent mechanized reconnaissance troop. In order to prevent this anticipated loss of an entire company, we attached each of the reconnaissance platoons to a gun company—permanently we hoped. The pioneer platoon and company headquarters were to be kept with battalion headquarters for use wherever needed.

A reconnaissance platoon consisting of one officer and 21 men would obviously provide each gun company commander with a handy little task force, either for close-in reconnaissance or to supplement his security sections. In our training we concentrated on the development of each reconnaissance platoon into a group of five completely equipped and self-sufficient forward observation parties.

The efficient cooperation of the tank-infantry team in both Europe and the Pacific often failed because of communication difficulties. The fundamental obstacle is that in most cases the tanker and the infantryman don't know each other—or if they do, it is a friendship of a most casual nature. Certainly there is rarely that harmony between the two that comes after long association in the same outfit and from working together as a team for weeks and months. And even if the infantryman succeeds in maintaining perfect communication with the supporting tanks, he still is at a disadvantage when it comes to calling for and directing fire on a particular target. Only in rare instances has he become completely familiar with their fire orders, technique of adjusting fire or—and this is of no small importance—with their personalities. But the TO/E of the tank destroyer battalion provides the means for overcoming these difficulties. Each of the three gun platoons in the tank destroyer company has one organic forward observation party consisting of the platoon sergeant and two men, mounted in a ¼-ton truck and equipped with a SCR 610. This radio was to have been replaced by the much lighter SCR 619. In practice we alternated the platoon sergeant with the platoon leader for this FO job so that both would become equally proficient. A total of three such forward observation parties in a company is not such a bad set-up all by itself, but with an attached reconnaissance platoon a total of *five more* FO parties, manned and equipped exactly the same, are added!

The term *forward observation party* is perhaps a misnomer since it calls to mind indirect fire technique. We used it, however, to avoid introducing an entirely new term into the soldiers' vocabulary. Actually *fire support team* would be far more descriptive. Although these FO parties were trained to adjust high angle indirect fire if necessary, their principal mission was to designate to the tank destroyers the targets which the infantry wanted knocked out, and, if these targets were invisible from the guns, to adjust the destroyers' high velocity, direct fire on those targets.

It required no deep-domed military masterminds to anticipate that the Japs on Kyushu would do as well as they had on Okinawa in concealing their defensive positions. And if we were going to knock out this kind of expertly camouflaged target, we would have to do it either by bringing our destroyers up so close that they could practically stick their muzzles into the mouths of the caves, or else adjust our fire by FO parties operating in the infantry front lines where they *could see* the targets although the latter might be completely invisible from the gun positions, be they 200 or 2,000 yards to the rear.

The jungle-covered hills of Leyte gave us an excellent opportunity to test the practicability of this technique. The only available range necessitated firing across a bay against

Carrier-based U. S. Navy bombers blast airfield on Kyushu. Alhough beach is not shown, hinterland is typical of terrain anticipated in Operation Olympic.

the side of a steep hill some 2,300 yards away. At this range the height of the vertical dispersion scale for the 76-mm gun is about 10 feet, as compared with only 3 feet at 1,000 yards. Nevertheless, with practice a forward observer posted at the base of the hill could obtain direct hits on a target two or three feet in diameter and entirely invisible from the gun positions, in less than a minute.

The technique of adjusting fire was exactly the same as conventional field artillery forward observation methods except applied in a *vertical* rather than a horizontal plane. There were two good reasons why it was necessary to work in the vertical instead of the horizontal plane: first, the study of maps and photos indicated that, as in Okinawa, the principal Jap defenses would be in the rugged terrain inland from the beaches; second, the extremely flat trajectory of the 76-mm or 90-mm gun renders range sensing practically impossible at distances under 3,000 yards.

At Camp Hood all gunnery standards had been based on hitting a target eight feet high, the height of the German PzKw IV tank. We established our standard as a target only 6 feet high and 2 feet wide and the following table became our gunnery bible. We drilled it into the minds of the gun crews and all forward observers. The latter included every man in the battalion, not excepting cooks.

The reason that the adjustment of fire could be accomplished with such speed is to be found in column 3 above.

1. *Range*	2. *Height of dispersion scale*	3. *Probability of missing 6′ × 2′ target*	4. *Probability of missing expressed in rounds*
1000	3 ft	zero percent	—
1500	5 ft	zero ″	—
2000	8 ft	4 ″	1 out of 25
2500	12 ft	18 ″	1 out of 5½
3000	17 ft	34 ″	1 out of 3

At ranges of 2,000 yards or less the dispersion scale is so small that bracketing is unnecessary. We found that with practice the initial data would bring the first round so close to the target that the first correction would produce effect. However, at ranges over 2,000 yards when a round was in the vertical dispersion scale a confirming round was always fired before making the small elevation change necessary to get right on the pin-point target. It may be noted here that in the vertical plane the width of the dispersion scale is approximately one third of its height. This practically eliminated the problem of horizontal dispersion.

Gunnery training emphasized that when targets were visible from the gun positions the FO parties had only one mission—to designate the targets to the gun commanders. Theoretically it should be no problem for the infantryman to point out targets to his supporting armor. We found, however, that constant practice was necessary in order to develop speed and accuracy in this department; this was

the case even between FO parties and guns which had the advantage of both employing the same type of radio and—even more important—were members of the same team who habitually worked and lived together, and who knew each other so well that each could almost tell in advance how the other's mind would work.

Another reason why we always tried to let the gun commanders rather than the FO handle the adjustment of fire was to clear the traffic on the radio net. To realize the maximum advantage of the eight FO parties it would be necessary to use every means possible to bring the destroyers far enough forward so that they could identify and attack their targets by direct fire adjusted by the gun commanders themselves, thus leaving the radio channel clear for missions where the nature of the target made this impossible.

In this direct fire training we developed a short cut in the methods taught at the Tank Destroyer Center, where gun commanders are taught that a certain change of range will move the trajectory so many feet up or down in the vertical plane of the target at various ranges:

500 yards	1 foot
1000 ″	2 feet
1500 ″	4 ″
2000 ″	6 ″

If a gun commander is firing at a German PzKw IV at 1,500 yards and hits just at the base of the target he is supposed to figure like this: "Damn! I want to hit in the center of mass of the tank or four feet higher than that last shot. At 1,500 yards a 100-yard change in range will lift the trajectory exactly four feet. Good! UP 100, 1 LEAD, FIRE!" All very well at Camp Hood but a little too rugged for combat, especially if the soldier has to go into interpolation to get his range figures. And the figures will prove that he will get just about the same results, and a lot quicker too, if he makes a 100-yard range change for every mil deviation in the vertical plane as measured through his field glasses.

It would seem fundamental that everything possible should be done in war to obviate the necessity for thinking—even for remembering. In that connection we always made it SOP in the fire orders that the gun commanders give a new range and lead command for each shot, rather than make the adjustments in successive increments such as UP 200, DOWN 100, etc. If the gun commander does all the thinking (and he gets a sergeant's pay for that job) all the gunner has to do is concentrate on laying on the target the range and lead data given him. That seems quite enough to occupy his time without requiring him to remember from one round to the next what range and lead tic he had on the target.

Whereas we planned to use direct fire wherever possible, even if it meant moving our destroyers up where TDs are not usually supposed to be, it was quite apparent from the dope brought back from Okinawa by the Battalion Executive Officer, Major Mowder, that the Japs would have plenty of prepared positions to which our destroyers could not approach close enough to identify and destroy by direct fire adjusted from the gun itself; these targets would have to be attacked by forward observation methods. On this type of target we used field artillery methods modified for employment in a vertical plane and adapted to fit the extraordinarily small dispersion error of our high velocity weapon. To avoid any confusion with the adjustment of high angle fire we substituted, in sensings, ABOVE for OVER and BELOW for SHORT. For example:

Observer to Gun: REFERENCE POINT IS 200 RIGHT, 30 ABOVE, CONCEALED CAVE, WILL ADJUST.

Gun to Observer: ON THE WAY.

Observer to Gun: 5 RIGHT, 10 BELOW.

The FO gave his sensings in yards which were converted into commands in mils by the gun commander. Sometimes, in actual firing at the jungle-covered slopes, targets which were initially invisible through the gunner's telescope would be revealed by the fragmentation effect of the HE which was always used for the initial adjustment. (In the 90-mm the muzzle velocity for both HE and APC are the same so that no changes have to be made in range when switching from one to the other.) In such cases the gun commander would take over from the forward observer and continue the adjustment and fire for effect by direct methods, using his field glasses to measure deviations from the now visible target. We found that in firing at ranges over 2,000 yards, the elevation quadrant and azimuth indicator (panoramic sight in the M36B1) gave more efficient results and was practically as fast as using the 5-power telescopic sight. The advantage in using these instruments rather than the telescopic sight would of course be more pronounced over terrain obscured by drifting smoke and dust.

Although the atomic bomb rendered this whole business purely academic, we think that combat in Kyushu would have proved our two main premises: (1) that armor employed in restricted terrain should be protected by organic security personnel as now provided in the T/O of the tank destroyer gun company, and (2) that supporting fire from tanks (or TDs) should be directed by tank (or TD) personnel, just as a field artilleryman, rather than the supported infantryman, adjusts the fire of the artillery.

This was our set-up for operation OLYMPIC: three gun companies each with twelve 90-mm high velocity guns mounted in heavily armored destroyers and each protected by its own security personnel; each gun company with a total of eight well trained and fully equipped forward observation parties. With this organization we felt capable of putting down "accurate fire when wanted, where wanted and in sufficient quantity," to use the oft-repeated motto of a former commanding general of the Tank Destroyer Center.

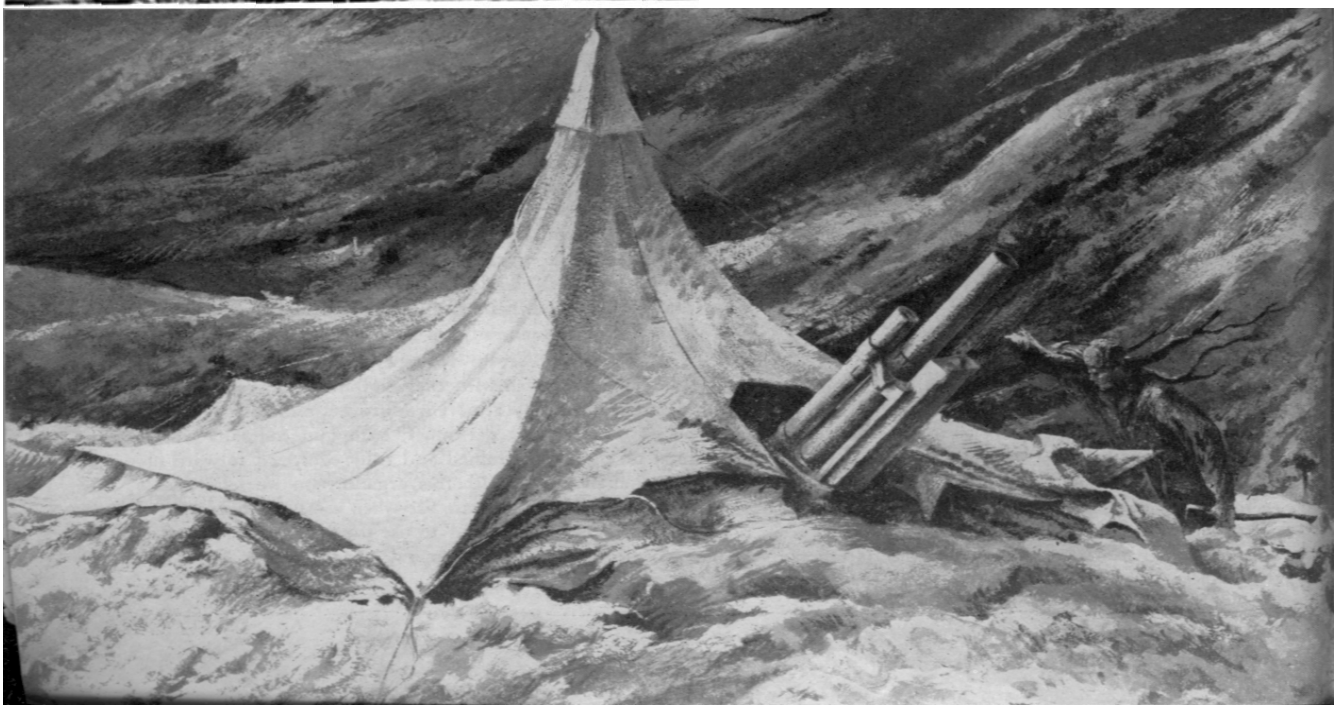
Soldier Art Is Excellent

Few, if any, of the many records of World War II are either as unusual or interesting as the many hundreds of paintings executed by artists who were assigned to the duty of making a pictorial history of Army activities. Some of the artists devoted their full time to this work; others painted in addition to their regular duties. Much of the work was done close to the front from sketches made during action.

The subjects cover a wide range of military activity in all of the far-flung theaters—from the training camp, to the over-crowded transport, to violent death in the air or on the beach, with appropriate regard for the logistical realities of modern war. It is not a pleasing record. Properly so, for war is anything but a pleasing business. It is a record not only of the dynamic energy of muscle and machine, but also of the mud and cold and crushing boredom of abnormal living.

The attitudes in the picture at the upper left, entitled "In the Hold of a Freighter." by Technical Sergeant Albert Gold, well typify the GI expression "hurry up and wait." The center picture, by Aaron Bohrod, shows artillery being landed at Rendova. "Salvage Roses" is the unusual title given the lower painting by Captain Edward A. Reep, because: "At first, artillerymen lived in tents near their howitzers, and then because of heavy counterbattery, they dug in. The rains increased and tents were placed over the weapons, allowing them to be fired out of the tent door. Soon after, snow began to fall regularly and both tents and howitzers were painted white. Ammunition, kitchen supplies, and nearly all other equipment was marked by long poles being driven into the ground with red cans attached to the tops. After weeks of snowfall the white valley blossomed forth. The Commanding General of the 34th Infantry Division always referred to this Indice Valley scene as the valley of 'Salvage Roses.' "

For more soldier art, see Frontispiece and page 82. Pictures are reproduced here by courtesy of the War Department.



Defensive Fires

Lt. Col. Robert M. Ewing, FA

The corps commander stood belligerently in front of the infantry S-3 situation map and glared at me, with none of the friendly, elderly gentlemanliness which I remembered as one of his attributes in training. "Explain to me, colonel, just how you plan your defensive fires," he barked.

Long years of training brought a sparkling response to my lips. "Yes, sir," I said.

I remember one infantry company which called for a certain concentration each night. They would always explain their call by saying that they could hear a horse-drawn train moving close behind the German lines. We tried for days to convince them that it was probably some Kraut farmer taking his team of horses out for exercise, since he didn't dare exercise them in the daytime. They continued to hear the horses, however, and we continued to shoot. In fact one night we fired nearly 2,500 rounds on infantry calls for defensive fires. Of course a lot of the calls were made because of genuine raids or counterattacks, but one call in particular used up quite a lot of the ammunition.

The morning after our 2,500 round splurge (which gave my S-4 an extra gray hair) the telephone rang and our Div Arty general asked, in a sweet voice, "Who was running your FDC last night?"

"Buck," I said, and even forgot to add a "sir," as I eagerly handed the phone to my executive. We had sort of been expecting this call, figuring it would come shortly after the general finished his breakfast coffee and began looking over the ammo expenditure reports.

Buck didn't stammer much. In fact he didn't say much of anything except "But, general . . . .," until finally the general asked the question Buck was waiting for.

"Was the infantry really being counterattacked?"

"General, I don't know," said Buck. "Frankly, I didn't have time to go up there and find out, sir. But I would be the last person in the world to deny the doughboys some fire when they really think they need it. If they weren't being attacked we could have saved some ammunition. But if they were being attacked and I refused to fire, we would have lost a lot more than ammunition."

The general didn't press the issue any more. He knew the score. And we knew that it was as much his duty to question us about ammunition expenditures that seemed excessive, as it was our duty to expend ammunition when we thought it necessary.

Getting back to the Hurtgen Forest and the corps commander, I explained to him that we had found it impracticable to plan our defensive fires, *after* the infantry battalion and regimental commanders had planned the defensive fires of their own weapons. In training and on maneuvers it was customary for the regimental S-3 to assemble overlays sent in from the three battalions and present the consolidated picture to the artillery battalion commander, who then placed his normal and emergency barrages in the most critical and undefended areas, sprinkling concentrations at other crucial points.

In combat I found that the defensive fires had to be spotted on the firing chart at the moment the infantry stopped moving. We couldn't afford to wait while they worked out their defensive plans. Using good liaison officers, who lived with the infantry and gained the complete confidence of the infantry battalion commanders, our system worked smoothly. As soon as the doughboys stopped moving and were given orders to dig in, the liaison officer with that battalion and the battalion commander plotted their defensive fires on a map. The LnO then called FDC and gave them the coordinates of these fires, using a map coordinate code. FDC gave the LnO a concentration number for each one, which the LnO immediately noted on his map board. As the S-3 was receiving the coordinates, the computers were starting to figure data for them. In my battalion we put a letter after all defensive concentration numbers, using "X" for the infantry 1st Bn, "Y" for the 2d Bn, and "Z" for the 3d Bn, making it just a little easier to identify the concentrations. As soon as all the concentrations were reported to the FDC the LnO notified each infantry company in his battalion of the coordinates of the barrages and concentrations, and their numbers. Using the above method, it was customary for all defensive fires to be ready for firing on call within fifteen minutes after the doughboys stopped moving. The procedure did not end there, however.

When all three battalions were ringed with defensive fires, an overlay was prepared in the FDC and brought to me at the infantry regimental CP. The regimental commander and I immediately studied the plan of defensive fires and compared it with the plotted positions of his companies, as reported to his S-3. At this conference we made any changes which seemed desirable in the plan and at the same time compared the positions of his units as reported by the infantry battalion with those reported by my liaison officers. If any discrepancies existed an investigation was started at once to determine the true position. When we were both satisfied with the plan, we initialed it, noted on it the time, and filed it. Any changes which we made in it were of course reported to the FDC immediately. The liaison officers were also at liberty to request additional concentrations and did so, whenever their more detailed study of the infantry positions showed it to be desirable.

After the corps commander and his entourage had left our part of the forest, I learned that he had asked the same question about defensive fires of the infantry S-3. Yes, our descriptions of the methods used tallied in every respect. At least it is "a solution."

THE FIELD ARTILLERY JOURNAL

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Is Everybody Happy?

This column promised more on the subject of reader reaction to the Editor's recent "cry for help." Here it is.

Many letters were received from many artillerymen, ranging in rank from general officers to high school students. As will be noted, the views expressed and recommendations made cover a wide bracket of ideas. In view of their content, the Editor did not feel free to publish these letters over the writers' names without prior clearance. It is realized that to have included the names would have added to reader interest. Unfortunately, the pressure of time prevented this. As a matter of fact, a great many letters still rest unanswered on the Editor's desk. All will be answered in due course. Meanwhile, warm acknowledgment is made here of the vigorous enthusiasm that prompted Association members in writing these letters.

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Reasoned Tolerance?

The first letter quoted—a letter written "with fraternal sympathy" by the editor of a newspaper in the deep South—bears little direct relationship to Association policies or problems. It is quoted not for its value or its superficial surface humor, but purely as a vehicle to permit the Editor to deliver a solid blow against *intolerant thinking—a dangerous social disease* that, instead of receding, seems to be spreading in our country and elsewhere, these days.

"* * * You want to have some suggestions how to keep the FIELD ARTILLERY JOURNAL interesting. Yes, I have some ideas. First move off of that damned street and set up on one that is not so hard to spell. * * * Then you say you are looking for an assistant. I might apply for it myself. It looks as though anybody can get a job in an office of any publication today, judging from the drunken bums we have to hire here. * * * Note you say living conditions are difficult in Washington. Well, they are going to be difficult in the whole darn country if we keep on letting a lot of hoodlums run the nation. * * * Would I send in something? No, I am not that kind of a writer in my present mood. The enclosed is what I have to say and what I have my mind on. If you will turn some artillery loose on them I will go into action. * * *"—*Unhappy Editor*.

Affixed to this letter were two intemperate articles bemoaning the heritage of the New Deal and the wretched state of the nation, and reaching these cheerless conclusions:

"We have abandoned our government and the operation of our social machinery to a people without education, without background, without tradition, without character, and without insight," and

"Whereas Truman will try to bring us around into a normal channel * * * mob rule has been made legal and we are now on the verge of anarchy, and unless there is united action by the orderly people of the nation, we will be shoved into it."

Perhaps the writer of this letter expects the Editor to draw strength from the realization that our Association is not alone in its post-war difficulties—America is also having her troubles! Be that as it may, there *is* much to be concerned about in the snarled circumstances of our politico-economic structure here in the United States, not to mention the world as a whole. These circumstances are the product of man's frail efforts over many decades to reconcile two remarkable and earth-rocking accidents that happened to descend upon him—*unfortunately, at about the same time* in the long course of world history: namely, the capitalistic system of roundabout production and distribution, and the democratic ideal that men have the capacity as well as the inalienable right to rule themselves. The orderly solution of the confounding social complexities of our capitalistic way, within the still-somewhat-immature democratic process, holds forth the hope of greater physical and spiritual well being than man has ever known. This is the over-riding riddle of our time. Let the writer of the above, and all others who think like him, remember that *there are no absolutes* in the curing of great social convulsions, and that *an ounce of reasoned tolerance and understanding is worth many pounds of vitriolic invective. Intolerance* is the stuff of which *much worse* social ills are built. (For similar theme, see Editor's note on page 104.)

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Three Babies

*** * * Although I am a woman, I've studied the FIELD ARTILLERY JOURNAL thoroughly each month when it arrived. My husband is also much attached to it. After reading your frank, open letter I'm determined to find time in 1946 for all three of my babies—Junior, hubby, and the JOURNAL. I've every confidence that your publication will prosper, so long as artillery husbands stick by it with the untiring aid of their spouses. As you can see, I'm interested in the feminine touch of the JOURNAL. * * *.—*Artillery Wife*.**

Flattering, indeed, to be classified right along with child and husband. Perhaps this friendly wife will write the article which, among others, the Editor feels would provide an interesting feminine touch—"Damn These Men—It Was Hell Without Them, and Now It's Hell With Them!" Should be publish such an

article it is fortunate that he would have advance notice thereof, because the reaction of the following general officer might be even more vigorous!

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Secret

I have just received and read your "Call for Help" and hasten to send you my immediate reactions to same. * * * Paragraph—should never have appeared in print. * * * The two incidents given, to my way of thinking, indicate two conditions of training of which we should hang our heads in shame: namely, discipline and physiology. The JOURNAL should not become a Joe Miller's Joke Book.

Are you familiar with the publications of the Royal Artillery of the British Army or of the Naval Institute of our Navy? These publications have always appealed to me. You might look them over. You have a most difficult job which is further complicated because of the lack of a guiding hand in our branch. I am sure there must be some one who looks after the Field Artillery, but for the past few years it's been a secret.

My suggestions for the future are: (1) that the sale of the JOURNAL be based on its contents; (2) that its appearance be dignified and of such a nature as to look well in the bookcases of serious minded officers—the old JOURNAL of the 1920s was of this type; (3) that it not be a textbook, but during the next few years should be predominantly historical—a history of the Field Artillery and its members—because so many of its readers know so little of what any unit other than their own did in this war.—*General Officer (RA)*.

The Editor makes no apology for his "cry for help," is quite familiar with the publications mentioned, will not make a joke book out of our JOURNAL, disagrees flatly that the JOURNAL should be predominantly historical, and shares along with the majority of artillerymen this General's concern over the fact that we no longer have a Chief of Field Artillery or other appropriate office specifically devoted to looking after the myriad of interrelated artillery activities. Those of us who were involved in artillery work in the higher staff echelons during the late war are perhaps more aware than other artillerymen of the continuing and crying need therefor. *That need still exists, perhaps even more now than during the war*, for in wartime the surge and momentum of events are relentless and things get done, somehow, sooner or later. It is not so in peacetime, even in ordinary times. And these are certainly not ordinary times for the Field Artillery; these are changing times, when our future and the Nation's security are being wrought. This column believes most firmly that the best interest of the Service will not be satisfied until an organizational change results in the establishment, not only in Washington but also through and within all higher command echelons at home and overseas, of a *"suitably integrated artillery guidance"*—give it any name you will—appropriate to and consistent with the decisive role of artillery in battle. The British and the Russians had it in the late war and will have it again. The United States lacked it, along with the Germans and the Japs.

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No Strike-Out

My score with the FIELD ARTILLERY JOURNAL is one perfectly swell article rejected and two mediocre contributions published. I hope the game isn't over.—*Demobilized Artilleryman*.

It isn't.

—◥—

Outvoted

I have always felt that a considerable amount of matter in the line of stories and humorous incidents could well be included in the JOURNAL without detracting in any way from the professional qualities. * * * As a matter of fact, humor is so closely tied in with all of our activities in the field or in barracks that I believe everyone likes to have some of it served along with the professional matter. Whenever you hear officers or soldiers reminisce it is always about some humorous episode.—*Colonel, FA-Res*.

Little effort, if any, will be made to inject humor into the JOURNAL. Most readers don't want it.

—◥—

Failed Completely

As is well known by *any student* of the military profession, artillery ranks first *as a killer and a maimer of the enemy*. If they are to carry out their decisive mission in battle, artillerymen must be given the necessary information as to the uses of our valuable arm. These uses must have real professional tactical and strategical instruction. In this mission the FIELD ARTILLERY JOURNAL has failed completely. Frankly, I have been disgusted with its contents for years. It has contained many sketches of combat conditions but they have contained little *real meat* for those who are preparing themselves to enter combat. It has contained some good instruction in geography—this has no place in a professional artillery journal. It has contained many excellent *pointers* on technique, which also have no place in such a journal.

The articles on combat conditions reached a new low in "* * *" in your current issue. I defy any professional soldier to find any information of professional value therein. * * *

I believe that the FIELD ARTILLERY JOURNAL should be the torch bearer in placing the Field Artillery of the Army of the United States where it belongs in our land armed forces — AT THE TOP. * * *

The treatment of the Field Artillery by our high command in this last war was only the result that could have been expected by the attitude taken by our leaders during the years between the two last wars. Artillery has never been and cannot now be classified as solely a supporting arm. To do so only shows that whoever so classifies it is unlearned in the conduct of battle. My contention is proven by the fact that the artillery produces more casualties than all the other arms—infantry, air, and cavalry.

With all this criticism I must include something constructive. For years I have been considering methods to improve the JOURNAL, and my studies have led me to believe that the method of obtaining articles must be to buy articles on desired subjects from selected writers only. These articles must treat fully combat conditions in the necessary detail so that they can be classified as authoritative. There is no place in the FIELD ARTILLERY JOURNAL for any other type of article and certainly there are enough qualified artillerymen to produce them.—*Retired Colonel (RA)*.

Strong words and strong ideas, these, the general soundness of which the Editor declines to comment upon, other than to assure readers that he will continue to solicit specific articles from selected writers, as have his predecessors.

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The Best Ever

Lieutenant Colonel Coleman did a wonderful job as Editor of the JOURNAL and deserves the highest commendation. The JOURNALS during his detail

have been the best ever. He has produced the best magazine in military fields.

I have noted the increasing interest in the prospects of military training and the approaching draft which is steadily gaining on those of us nearing the age of 18. The average boy is desirous of procuring any and all bits of knowledge relative to the military which he may use after entrance. Also, there are many artillerymen among the veterans who have returned from active service since the termination of hostilities who have entered college either for the first time or to continue their college educations at government expense. How about concentrating (form letter to the various librarians or deans, for example) on all secondary and collegiate organizations in the country? All are desirous, I believe, of keeping up with artillery progress, particularly the younger of us who will be on the "receiving end" of military conscription if it goes through. * * *

May you have every success in the execution of your new function, and continue the magnificent work carried on thus far by Colonel Coleman. — *Junior Redleg*.

This letter, from a youthful enthusiast, is but one of many letters from artillerymen who, unlike the Retired Regular above, found THE FIELD ARTILLERY JOURNAL most valuable professionally during the long course of the war.

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Deserves Thought

I hope the JOURNAL doesn't let corps artillery die on the vine. In view of the fact that corps artillery battalions far outnumber the number of divisional battalions, it should deserve some thought. I know full well in 1941 there were very few officers in the Army who knew anything about the problems and the handling of the corps artillery. — *Former FA Bn Commander*.

The whole field of artillery organization, armament and personnel deserves much thought. (See "Stronger Fare," below.) Articles on these subjects are deemed particularly timely.

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Stronger Fare

Your letter, "The Editor Calls for Help," presents problems that are a matter of grave concern to all loyal supporters of the Field Artillery. These problems are especially disturbing because they are indicative of a general state of lowering morale throughout our arm of the service.

Of course, a certain amount of let-down is to be expected in these times. During mobilization, the future is full of exciting possibilities, interest is keen and morale is high. When demobilization comes, the future has lost its exciting possibilities in most instances, and disillusionment and disappointment take the place of hopeful expectation. However, the intensity of the reaction now being experienced is greater than it should be. It is far greater than the similar reaction experienced after the close of the First World War.

The causes of this unfavorable reaction are not difficult of identification. Officers with troop units in the field are fully conversant with the conditions that are producing this result. First and foremost, especially for non-divisional units, is the low state of morale engendered by the many iniquities caused by the type of organization forced upon the Field Artillery in 1942 and 1943. The second cause is the manner in which demobilization is being carried out. The ruthless breaking up of units with distinguished combat records, the many transfers from unit to unit, the return home as a casual, all tend to destroy any sense of importance which the individual may have had and to engender a feeling that no one has any further interest in him or in his professional ability as an artilleryman. The third cause, which is of great importance now, is the complete lack of any information on the composition of the post-war Field Artillery and failure to expedite the selection of officers to receive commissions in the Regular Army. All of these causes have produced what is probably the lowest state of morale which the Field Artillery has experienced in many years.

You may say, "All that is very true, but how does the FIELD ARTILLERY JOURNAL come into the picture?" The Field Artillery Association and its chosen instrument, the FIELD ARTILLERY JOURNAL, were established thirty-five years ago to promote the general welfare of the Field Artillery. The Association and the JOURNAL should strive unceasingly to counteract the forces that tend to break the morale and impair the status of the Field Artillery. When the Office of the Chief of Field Artillery was abolished in 1942, the Field Artillery lost its titular head, its representative and advocate in all matters wherein its general welfare was concerned. In this emergency, the FIELD ARTILLERY JOURNAL might have become a powerful force in expressing the views of the Field Artillery. Unfortunately, it failed to measure up to its opportunity. Throughout World War II, it has hidden its head in the sand when changes were proposed which affected adversely the future of every wearer of the crossed cannons. As an instrument to promote the general welfare of the Field Artillery, the JOURNAL has failed miserably.

Many distinguished artillerymen will differ with me as to the role of the FIELD ARTILLERY JOURNAL. They will argue that its sole purpose is to promote the professional and technical competence of its readers. If that policy is to be followed now, the JOURNAL had better suspend publication — temporarily, at least—while it is still solvent. For the present, artillerymen are fed up on techniques. They have just finished playing a decisive role on a thousand battlefields. They are not interested in learning that their technique should have been improved. If th FIELD ARTILLERY JOURNAL wishes to hold the attention of the veterans of World War II while they still remain on the scene, it will have to provide a stronger fare than it has in the past.

What the FIELD ARTILLERY JOURNAL needs most, at the present time, is a strong editorial policy backed up by numerous articles on questions of vital importance to the future of the Field Artillery as an arm of the service. The whole field of organization, armament and personnel requires reconsideration. The fact that opinions expressed may be contrary to present policies and plans of the War Department and the Army Ground Forces should not be a deterrent. If freedom of expression and honest, constructive criticism have not been guaranteed by our democratic form of government, it is high time that such fact became known. A test of the freedom of the press by a Service Journal should not be delayed.

The next most important function of the FIELD ARTILLERY JOURNAL is to provide material that has news value. While censorship was in force we lost track of persons and units we formerly knew. Until a new Army List and Directory is published in its prewar form, we will be famished for the information which that publication formerly provided. For us overseas, a station list of field artillery units and the

names of their commanders now active in the United States would be of great interest. Likewise, station lists of units overseas would undoubtedly be of interest to readers in the States. The JOURNAL should have a regular correspondent in each major unit from brigade up to theater headquarters. If they sent in nothing more than copies of routine, unclassified papers, many items of interest could be culled therefrom.

When well written, accounts of actions of units in combat are always of interest. The JOURNAL has published many excellent articles of this nature in the past. Keep up the good work and try to seek out new material.

Short stores — either true, fiction, or based upon historical facts—are always acceptable. Do not restrict selection to Army authors. Get Army women interested; many of them can write interesting copy.

Special attention should be given to the needs of National Guard, Reserve, and AUS Officers now demobilized. These fine officers did most of the hard and dangerous work of the Field Artillery. Many of them will be seeking commissions in the Regular Army. Help them by providing information and assistance.

It is believed that short biographies of life-long Field Artillerymen now being retired would be of interest to many officers in the service.

A department devoted to recreational activities for officers on leave of absence might develop much reader interest. Facilities for hunting, fishing, skiing, etc., might be described and useful hints provided. Accounts of hunting and fishing expeditions, etc., are always interesting.

Do not be afraid to do something new and daring. One of the surest roads to success is to get talked about.—*General Officer (RA), Overseas*.

A wave of humility pervades the Editor's consciousness in offering comment on this letter, so challenging is its dynamic vigor. He not only agrees with most of the specific recommendations made but seconds wholeheartedly the proper role of THE FIELD ARTILLERY JOURNAL, which he attempted to express in his "cry for help" and ventures to repeat here: "Artillery did a tremendous job in this war. Unless we nap in the interim, moreover, we'll do as great a job—perhaps even greater—if we have another. Principles of war don't change and until someone defines *artillery* or *gunnery* in terms that tie us either to rifled barrels or to a specific *depth of combat* I contend most forcefully that the advent of 'atomism,' guided missiles, rockets, and whatever may follow has served to broaden and not to restrict our scope of professional interest. This strengthens immeasurably our need in these changing times for a lively FIELD ARTILLERY JOURNAL—a magazine unhampered by the direct control of higher headquarters, except for the obvious proprieties of good taste and the guidance of over-all War Department policy governing public relations; a JOURNAL, in other words, wherein artillerymen may feel entirely free to express ideas, to relate experiences, to expound unprecedented doctrine, and, most important, to *anticipat change*. To lift words from the Constitution of our Association, such a journal would continue to be '*worthy and contribute to the good of our country*.' "

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Sharpen Pencils

It has been a pleasure to receive the FIELD ARTILLERY JOURNAL throughout the war years with its timely articles and interesting stories, which have been of great assistance to artillerymen as well as others.

I know from my wartime experience as a battalion commander that enlisted men are ardent readers of the JOURNAL and that they like to see articles contributed by the enlisted personnel. I suggest that you set a time, say a few months ahead, when all articles for that issue would be by enlisted personnel. I feel that those boys who have stood by their guns on many a hot or cold night and day without complaining would like the idea and could fill the pages of one issue from their experiences. Let them tell anything they want to, from funny stories to trials and tribulations of the wire and ammunition details, just so that they are permitted to sound off.—*Lieutenant Colonel, FA Res.*

An excellent idea which the Editor would like very much to carry out. He will start gathering material forthwith, if Enlisted Men will sharpen their pencils.

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No Job for the Editor

I suggest we reorganize the Association in such a manner as to overcome the rule against advertising. If you can accomplish that, then you will have no worries about finances.—*Colonel, FA Res.*

If and when the Association can afford to do so, serious consideration might well be given to the idea of reorganizing the Association and separating it from direct relationship to the War Department by employing only retired officers and civilians, as do a number of the Service Journals. However, unless there is a "sugar daddy" hiding out in our membership who is willing to subsidize the Association, no consideration can be given to this idea for a good long time. Meanwhile, the following legislative prohibition, incorporated into every appropriation act for the War Department since 1931, continues: "*No appropriation for the pay of the Army shall be available for the pay of any officer or enlisted man on the active list of the Army who is engaged in any manner with any publication which is or may be issued by or for any branch or organization of the Army or military association in which officers or enlisted men have membership and which carries paid advertising of firms doing business with the Government: Provided, however, that nothing herein contained shall be construed to prohibit officers from writing or disseminating articles in accordance with regulations issued by the Secretary of War*." The lifting of this restriction, which does not extend to Navy or Marine Corps publications, would help tremendously. The seeking of legislative change, however, is an activity outside of the province of the Editor.

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Artillery Tradition

I was happy indeed to learn that Saint Barbara will again appear upon the pages of our professional journal. There are too many nowadays, it seems to me, who do not appreciate the importance of tradition and sentiment to soldiers and soldiering.—*Retired General Officer*.

The Editor agrees, with deep feeling, that there has been a regrettable—yes, in some instances, what seemed to border on an outrageous—disregard in these recent wartime years of the stimulating potency of tradition to the honorable profession of arms. We artillerymen, in particular, have a great tradition which should be nourished with pride by all, and especially by high-placed commanders.

This page will carry more on this subject in the future. Meanwhile, warm welcome will be given to any and all articles, fillers, pictures or verse which, by highlighting past glories and tradition, will serve to give artillerymen new inspiration for the problems of the present. In this connection, the Editor is now engaged in "dressing up" our offices here, which he feels should exude artillery tradition. The loan or donation of appropriate items (pictures, books, documents, etc.) to the Association either for display or safekeeping is encouraged. Since our space is extremely limited, please consult the Editor prior to sending any bulky items.

The Massacre At Malmedy

By 1st Lt. Virgil P. Lary, Jr., FA, AUS (Ret)

Reprinted by courtesy of THE KENTUCKY ENGINEER

I escaped from the Massacre of Malmedy. Germany was making its last desperate death struggle in the so-called "Belgian Bulge." Our battalion was caught in their rapid advance and had to surrender to a superior enemy force. All of our weapons had been taken from us, our pockets had been ransacked for cigarettes and valuables, we were helplessly herded together in an open field, and then deliberate, brutal, cold-blooded murder of a battery of nearly two hundred men occurred.

Events have moved rapidly since then. Time and distance tend to soften memories, yet it all happened only a year ago. Its brutal, stark reality will never mean the same to the reader as to those few who through a miracle escaped.

It was on December 17th, 1944, that our Field Artillery Observation Battery was ordered to move from our previous area of operations in Germany to another sector. The work of our unit included mapping and surveying — surveying under the most rigid and dangerous conditions. Having spotted our own positions and observation posts, we then spotted the enemy targets on the map by triangulation on the flash of their guns or by the method of locating the point from which the sound came. This information would be transmitted to our own batteries and their fire directed so as to destroy the targets.

The morning of December 17th was murky and overcast but the usual advance car had gone ahead with men to be dropped along the way as road markers on the designated route. The convoy soon moved out with all personnel and equipment. I was riding in the leading jeep with the captain in charge, but, as yet, we knew only that our immediate destination was Bastogne.

Nothing eventful occurred along the route to Malmedy and on for about three miles further where we came to a multiple road intersection known as Five Points, Belgium. There our marker directed us on to the road leading to St. Vith and Bastogne. No Germans were supposed to be near us at the time and none of us was aware of the German spearhead, consisting of tanks and half tracks with armored infantry, which was rapidly approaching Five Points on the road to our left.

We had gone about 300 yards beyond the intersection when suddenly an 88-mm shell from our left front exploded near us. The firing quickly became more intense not only from our left but from directly in front. We could neither turn around nor escape to the right because of a ditch on that side of the road. The only thing to do was to stop quickly and make a dive into the ditch. This I did in "nothing flat," and then began crawling back to join the men behind, hoping to form some sort of defense.

It is remarkable—in view of the horrible experiences here described so graphically by Lieutenant Lary—that he could recall so many details so accurately. However, for the sake of historical accuracy, note is made of the following minor, factual inaccuracies (as disclosed by the official investigation of the massacre) both in the body of the article and in his original sketch (Figure 1). Although no cigarettes were found, there was clear indication that no systematic robbery had taken place, either before or after the massacre—considerable money (in addition to Belgian money over $800 in American currency was found, for example, on one American officer), watches, and other valuables were found on the bodies. The German who started the killing was a private, not an officer. Thirty-six escaped from the scene of the massacre, four of whom died shortly thereafter from wounds. Figure 2 is a more accurate sketch of the massacre area.

The kicking and shooting of individual survivors of the general massacre was done by members of a penal platoon of an engineer battalion attached to the 1st SS Panzer Division. Presumably, these same individuals were guilty of the four instances of body mutilation.—*Editor*

Hearing a tank coming down the road in the direction in which we had been moving and thinking it might be one of ours, I raised my head above the trench to find myself staring into the muzzle of a Tiger Royal (German tank). The German convoy had reached Five Points and turned into the Bastogne road after us. A German officer in a half track behind this tank seeing me raised his pistol and fired. I dodged behind one of our own vehicles which fortunately deflected the bullet. It was here that I removed all insignia denoting my rank and smeared mud over my helmet in order to look more like an enlisted man. By this time large numbers of German tanks had arrived and there was nothing to do but surrender.

The entire Battery was rounded up into a small area about fifty feet square. Our weapons had been removed, our pockets robbed and there we stood in the snow—a group of nearly two hundred defenseless prisoners of war. An attempt was made to point an 88-mm gun at us to forestall any attempt to escape, as we supposed, but the Germans were also headed toward Bastogne and the larger gun blocked the road, so it was ordered on and two half tracks, mounting machine guns, replaced it.

Just then a German officer in a command car stood up and fired two shots into our group, the first killing my personal driver who was standing next to me on my right. With the second shot the machine guns opened fire at point blank range, first killing those who did not fall to the

ground quickly enough, then began raking back and forth over the prostrate forms. Other bursts were sprayed upon us for possibly five minutes. Gradually the groans and moans ceased. I had received one shot which tore through a part of the bones of one foot and out at the ankle. Another had inflicted a flesh wound slightly higher in the calf of the same leg. I was fortunately able, despite pain, to lie still and not draw a burst of fire in my direction.

After that, several German non-coms walked around over the bodies, shooting in the head those who still showed signs of life. When doubtful they kicked a man in the face to see if he winced. Even the insignia of our medical corpsmen counted for naught, although it had been respected in other cases. One German came around my way shooting here and there. A bullet went through the head of the man next to me. I lay tensely still expecting the end. Would he see me breathing? Could I take a kick in the face without wincing? I couldn't see him directly as I was face down in the snow. He was standing at my head. What was he doing? Time seemed to stand still. And then, I heard him reloading his pistol in a deliberate manner. While doing this he was laughing and talking. A few odd steps before the reloading was finished and he was no longer so close to my head, then another shot a little further away. He had passed me up.

Before moving on, the Germans left a road block consisting of a machine gun and four or five men at the intersection, then they pulled out toward Bastogne. From counting the sounds made by the motors as they went by I estimated they had about fifty tanks and at least that many half tracks and other vehicles.

I lay perfectly still until the retreating convoy was well in the distance then, here and there, certain ones began whispering, asking if others were alive. I urged that we stay still until dark. Others wanted to make a dash before more Germans might come along. Someone started and fifteen of us, practically all wounded, followed in a dash for a house about fifty yards away which was just across the road that led westward. Almost immediately the Germans at the road block fired at us and I think I saw at least one man drop. Most of the others ran into the house but I ran behind it and hid in a small shed where I covered myself with straw. The Germans set fire to the house and sprayed our men with machine gun bursts as the heat forced them out. I counted, I believe, about twelve distinctly different screams of agony.

After it got dark I decided I had better try to make my get-away. I slipped out to the hedge which ran beside the road leading westward. This protected me from being seen by the Germans at the intersection. I hobbled along in the protection of this hedge for a while. When I had safely left the road block behind I decided not to follow the hedge further for two reasons; first, I might run into more Germans or another road block, and secondly, the road was not apparently leading me toward Malmedy where we had a field hospital unit. I therefore turned toward the right and "navigated" across the dark fields, taking my bearings, or azimuth, from buzz bombs which every few minutes passed overhead, apparently aimed at Liege.

It is phenomenal what one can do in emergencies. I walked on that foot for about two and a half miles before having to get down and crawl and on for about another

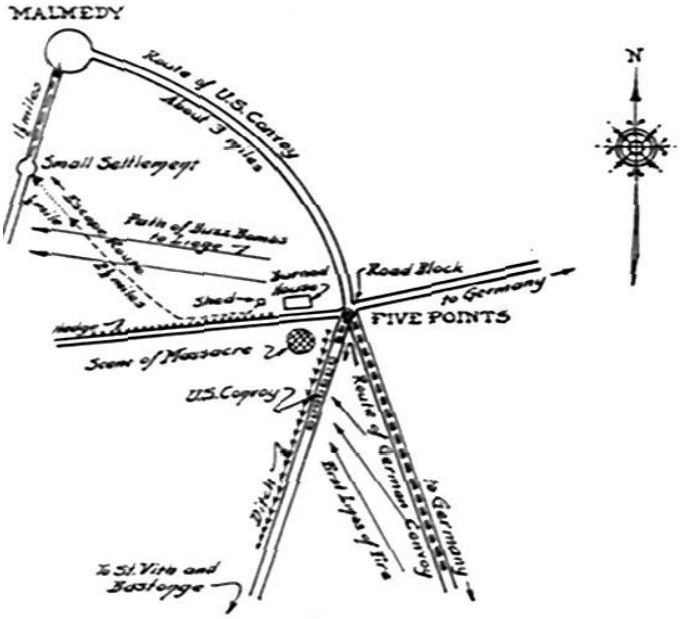


Figure 1

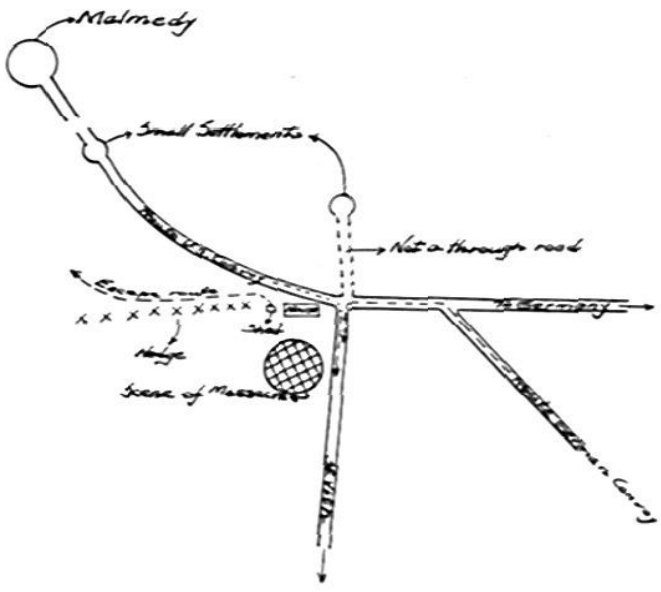


Figure 2

Figure 1 is a sketch of the massacre area, as recalled by Lieutenant Lary when he wrote the article. Figure 2 is a more accurate sketch of the area. Neither figure is drawn to scale. It will be noted that Lieutenant Lary did not cross a road, as he thinks he did, in getting to the shed. Moreover, his use of the term Five Points is new—this location was not generally known by that name.

half mile until I reached a small settlement (name, if any, unknown). Here I found a friendly old Belgian and his small granddaughter, who walked the mile and a half into Malmedy carrying a note to the hospital commandant asking that an ambulance or other vehicle be sent for me. During the day, however, the hospital had been drawn back out of the danger zone. All the old man could find was a first aid station, and the medics were too busy treating other wounded to send for me. They did give him some sulfa drugs and bandages to bring back, and asked him to help me in if possible. The old man found a stout cane while I dressed the wounds, and I finally arrived in Malmedy a few hours later.

After making my report of the massacre to the commanding officer I was evacuated through the usual medical channels and finally arrived home during the early part of the past summer. I am again in "civies," and a student at the University of Kentucky.

I later heard that some of the other men, wounded too severely to make the first break, succeeded in doggedly crawling away to safety during the night. One man, I was told, reached our lines after having been hit with eight machine gun bullets. In all, I suppose twenty to twenty-five survived. Of all the commissioned officers in the battery I was the only one left. Of the fifteen men in the first break I and two or three others who ran another way were probably the only ones who survived.

Not only from cruelty displayed at Malmedy but from contacts throughout the war the Germans have shown themselves to possess the meaner qualities of the fiercer animals in a zoo. These animals may have been raised under good care for generations but each lion cub is inherently vicious and ready to fight and kill. On the other hand, our men fought and fought hard because they believed their cause just, but their natural instincts did not and would not let them commit such bestial acts.

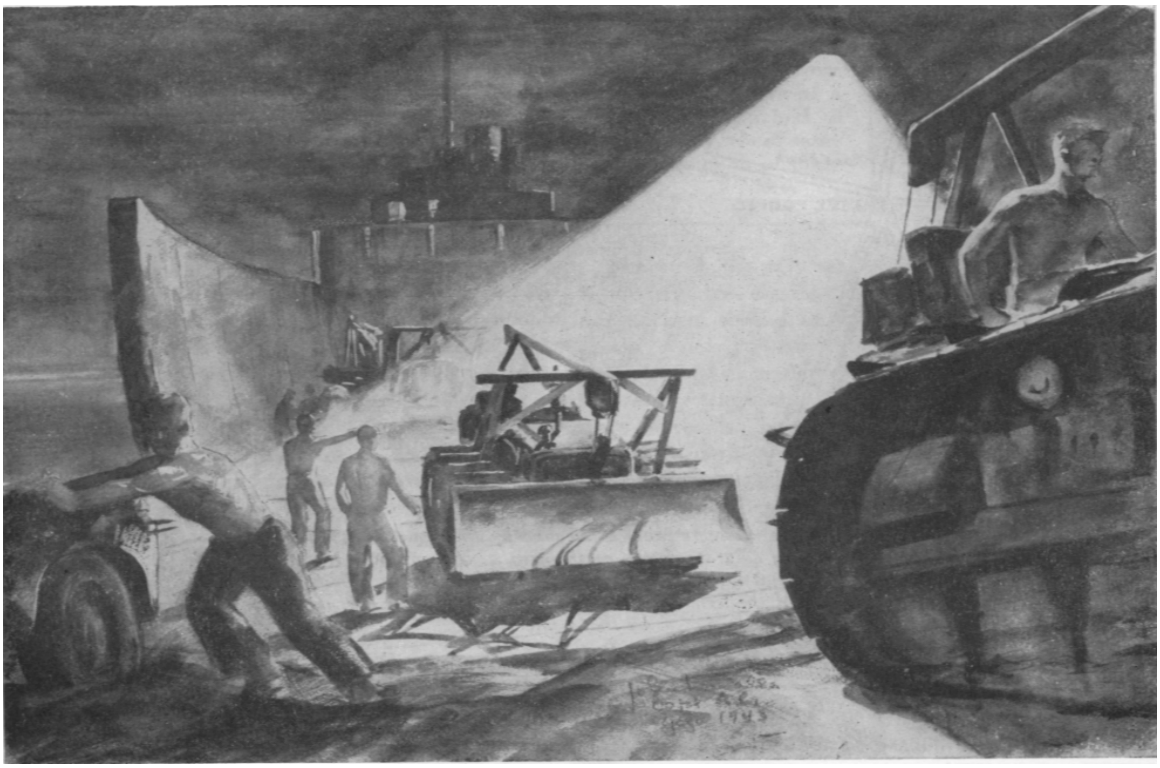
Over 2,000 years ago, the predecessors of the present German nation were known as barbarians. Throughout the entire Christian era they have continually fought wars of aggression and have been the world's chief disturbing influence. During the past century, and since becoming a unified nation, they have averaged a war of aggression once in every fifteen years, not to mention other instances where they attempted to provoke and incite war.

The German people are hyper-nationalistic. The great mass, with rare exception, thrills to the idea of "Deutchland uber alles; We are the super race; Others should be our slaves"; and is willing to use any means in the accomplishment of this end.

The Allies are facing, in this trait, the greatest menace against the safety of future generations. The military clique of Germany should and must be so broken up that it can never recover. The peace terms are already tending to soften. Controls need to be kept strong. Inherited instincts cannot be wiped out in a single generation. This time we must remember former mistakes.

"Lord, God of Hosts!
Be with us yet,
. . . . . .
Lest we forget."

UNLOADING BULLDOZERS, the original of which was painted by Major John Lavalle, AC, who saw service in World Wars I and II, is expressive of the irresistible energy and ingenuity of muscle and machine that managed, somehow or other, invariably to provide the combat units with the stuff-of-war in time and in adequate quantity. It is reproduced here by courtesy of the War Department.



Cellular Tables Of Organization

By Maj. Misha Kadick, GSC

The cellular type table derives its name from the literal meaning of the word—*of or containing cells*. The name, in turn, comes from the basic structure of the table: cells or teams arranged in columnar form. These teams are designed for the performance of specific functions, or the operation of specific equipment. Appropriate cells are selected to organize a unit or individual cells may be used to augment existing units.

The cellular table traces its origin to the Einheit principle used in the German Army. This system is based on the principle of having standard teams used as basic elements in organizing all their units. In other words, their organization for a reconnaissance squad is the same whether the squad is in the infantry regiment or in a reconnaissance troop. Thus, based on a study of German Army organization our Signal Corps proposed the adoption of the cellular type table to the War Department in 1940. In view of the considerations current at that time the use of the cellular theory was not considered appropriate, and the proposal was disapproved.

The outbreak of the war in 1941 brought with it the need for logistical units to meet the varying requirements of myriad bases, each with its own particular demands. The use of cellular tables was the answer to this organizational problem. In 1942 the first cellular table (for Signal Aircraft Warning units) was approved and published. Then came the 11-500 Signal Service Tables, and in due course of time the cellular tables for other technical services. There are at present twenty-one cellular type tables for which the Army Service Forces alone is responsible, consisting of a total of 726 separate cells or teams.

Cellular tables have met the need for flexible type tables of organization and adequately provided for situations of various requirements which otherwise might have necessitated the creation of special units for particular missions, or the splitting of units of fixed organization to accomplish these missions. In some cases the need for flexibility has been met by adding augmentation columns to fixed tables; these augmentation columns provided either additional or different types of personnel found necessary under different circumstances. Broadly speaking, the augmentation column is related to the cellular thought.

Units of our Army are organized under two general types of tables: fixed and flexible tables of organization and equipment. The fixed table was the only type used prior to the late war and is thus the more familiar type. Combat units, including all types of divisions and their sub-units, are organized under fixed tables. Tactical doctrine is generally based on combat units of fixed strength, though augmentation can be and often is provided.

Flexible tables of organization and equipment are either cellular or those having a basic fixed strength with the flexibility provided by augmentation columns which may be used to meet different requirements. Generally speaking, cellular tables have satisfied the need for flexibility in communications zone units, and augmentation columns have been used to meet the needs for flexibility in combat types.

To use an example, the following cells were used in organizing a composite service company in an overseas theater to serve the needs of a relatively small establishment.

			Strength	
T/O&E 600-500	*Type Cell*		*Off*	*EM*
Composite Service Organization	Co Hq	AC	2	7
	Mess Team	AG		6
T/O&E 10-500	2 Supply Dets	BA	2	40
Quartermaster Service Organization	Supply Det	BB	2	28
	Refrigerator Truck Det	CJ		2
	Laundry Det	EE	1	22
	Dry Cleaning Det	EL		
	Clothing and Equip Repair Det	DB		14
T/O & E 11-500 Signal Service Organization	Depot Team	CA	1	8
T/O & E 9-500 Ordnance Service Organization	General Supply Team	CC	1	36

Inasmuch as cells from several tables are used, then the Headquarters cells from T/O & E 600-500, Composite Service Organization, are appropriate. The possibility of organizing a unit which performs the work of several technical services by the use of cellular tables is thus shown to advantage.

A use for cellular tables which has not been exploited thoroughly in the past is the use of individual cells to augment units already organized under fixed or other tables. In this manner, without the publication of special tables, the need for additional trucks, truck drivers, communications personnel, or other specific requirements, could be satisfied.

The application of the cellular table is not limited to satisfying the variations of logistical and technical service needs. By use of cells from T/O & E 19-500, Military Police Service Organization, units can be organized for semi-tactical and administrative purposes. This flexible table lends itself admirably to conditions of providing organization for Military Police units that have the mission of law enforcement in areas under military control. To meet varying requirements, cellular tables have been adopted for use in the organization of harbor defense units. Too, cellular tables can be used to splendid advantage in the economical use of personnel on island garrisons where the use of standard units is not appropriate. To achieve fully this desired economy it would be necessary to cellularize elements of appropriate combat type units. These cells, if adopted, could also be used in the organization of task forces or in the augmentation of standard units whenever necessary.

THE STORY OF THE GUN

By Lt. A. W. Wilson, RA

Part III: 1779 to 1854

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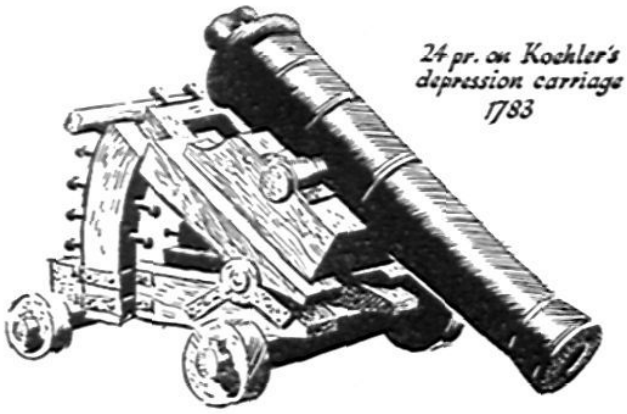
SIEGE OF GIBRALTAR

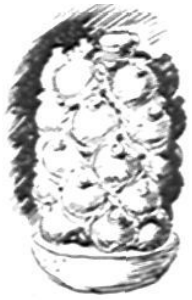
Before the century closed one more campaign was to be fought which produced one major discovery and two interesting experiments in the use of artillery. Spain, declaring war on us in 1779, attempted to recapture Gibraltar in 1781 and bombarded the rock for eighteen months. Though the resulting actions were entirely coast defense, they resulted in bringing about considerable changes in other branches of the artillery, notably field.

13" Mortar

In replying to this bombardment, part of which came from floating batteries and ships, it was found that the guns could not be sufficiently depressed in order to engage the enemy. An imaginative young subaltern, Lt. Koehler, after a few trials, produced a carriage (a drawing of which is shown here) which would allow this depression. This difficulty was no sooner solved than another presented itself. Round shot from guns and shell from mortars were found to be ineffective against ships. They were therefore superseded by the use of red-hot shot, a weapon first used by the early Britons against Cæsar.



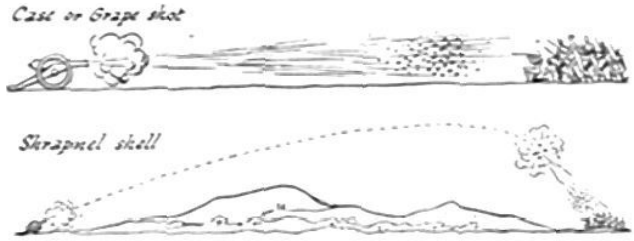
The method of loading this dangerous projectile was as follows. The piece was elevated to a horizontal position and the powder charge inserted and rammed. Then a wet wad of paper or cotton rags was introduced into the bore before the loading of the red-hot shot. A further wet wad was then put in to hold in the shot, the piece depressed, and fired as soon as possible. Their greatest triumph was the destruction of d'Arçon's floating batteries and a great part of the Spanish fleet on September 13th, 1782.



Quilted Grape Shot 1780, 40 9-lb, shells separately fused and fired from the 13" mortar.

SHRAPNEL SHELL

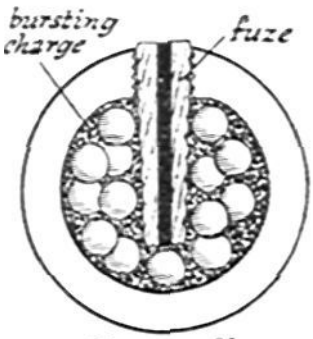
Experiments to fire shell from cannon were more numerous during the course of the 17th and 18th centuries, all of them proving unsuccessful. It was left to an infantry officer to suggest a means whereby this would be achieved. The distance from our nearest batteries to the Spanish lines was 1,700 to 2,000 yards, at which range our fire was ineffective. Many of the mortar shells burst at the muzzle from the heavy charges required at this long range, and the shell that withstood the shock flew wildly; fuzes were in general faulty; many good shells were smothered in the sand of which the Spanish works were constructed; and round shot were of no avail against sandbanks 22 feet high. We could therefore only direct our mortar fire against the sandbanks. Case or grape were useless as they would only carry one-sixth of the distance, and round shot against handfuls of men working in isolated groups equally valueless. The problem had still to be solved when Capt. Mercer of the 39th Regiment suggested firing



the 5.5 inch shell of the royal mortars with short fuzes, from the 24-pounder guns which had the same calibre as the mortars. A trial was made on September 25, 1779, and the calculated fuzes, it was found, often burst the shell over the heads of the working parties. Mercier's proposal was immediately adopted.

These fuzes, which had been used since the middle of the century were made of wood, ribbed on the outside, with a core of powder. Each "rib" represented a fraction of time in the burning of the fuze, which was cut off at the rib marking the required fuze length.

Though this brilliant plan served us well throughout the remainder of the siege, it was, of course, a makeshift idea and possessed several weak points, the main one being the small number of fragments and the inability to direct them on to any particular point. But the siege of Gibraltar proved that we had no really effective weapon against troops beyond the range of case. This need was filled by Lt. Henry Shrapnel, R.A., who invented a gun-projectile in 1784 which he called "spherical case." His principle was that of a hollow shell containing a fuze and a number of spherical shot surrounding a small charge of powder. The fuze was calculated to ignite the charge above the target, the charge being just sufficient to open the shell. The small shot then continued in their original line of flight at a slightly increased velocity. The advantage of the small bursting charge was that it did not scatter the shot, thus ensuring that the maximum number hit the target. After disregarding this invention during the following twenty years, the authorities began to take interest in it when England in 1804 once again faced grave danger. A trial of Shrapnel's shell was then ordered and an Ordnance Committee decided in favor of it. How great an invention it was can be judged by the fact that up to and during the Great War of 1914-18 it remained the only effective weapon against troops beyond the range of case.



Shrapnel's Spherical case

Quill Tubes, Flint Locks, and Fixed Sights

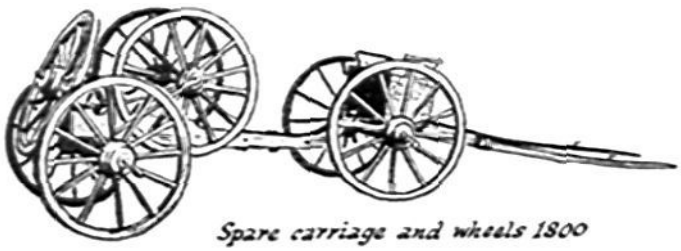
Evidence of the very slow development of the gun at this time is obvious when considering that the only advance in the firing of guns to be made since the introduction of the port-fire was that of the "quick-match tube" to supersede loose powder in the touch-hole. Loose powder had a tendency to cause serious erosion in the touch-hole; this was partly overcome by the use of a tin tube, through which was threaded a quick-match. After many experiments the goose quill was found to be most suitable and was in general use by 1800, the quick-match having been replaced by powder. These quill tubes were prepared in advance and dropped into the touch-hole as required. Even the introduction of the flint-lock to supersede the port-fire, an idea that was anything but revolutionary, was met by considerable opposition from the more conservative gunners on both land and sea.

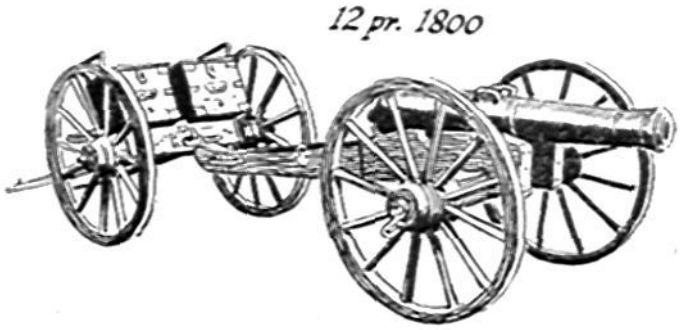

Quill tube 1800

Although the flint-lock had been known since the beginning of the 16th century, no serious attempt had been made to adapt it to the firing of cannon. Its use, together with the quill tube, was recommended by Sir Charles Douglas in 1778 for naval guns but the Admiralty would not entertain the idea. Sir Charles at his own expense then fitted his guns with this device. After proof that a greater rate of fire was possible, the idea was officially adopted in 1790. For some reason the land artillery did not adopt flint-locks, but instead pinned their faith to the port-fire.

It was perhaps in the effective ranges of our field-pieces that the lack of progression was most marked, but this may have been due to the necessity of sacrificing range for mobility, and the consequent inability of our gun makers to provide sufficient strength in the light pieces to withstand the shock of a heavy charge of powder. At this time 500 yards to 800 yards for close support was all that could be achieved. Coast defense guns, on the other hand, could fire up to 3 miles, which was the reason for the "3 mile limit" imposed on foreign ships.

The fact that fixed sights were not introduced until 1801 may have been due to these short ranges, but even so it is difficult to understand why the idea had not been thought of before. Up to this time sighting the gun had been done by what was known as "line of metal," that is by running the eye along the piece, taking into account the slight thickness at the breech end. Fixed sights consisting of a small blade at the tip of the muzzle and a similar projection at the breech end made the laying of the gun a more simple matter. The idea was suggested to Nelson, who replied: "I shall be happy to consider fixed sights for my guns, but


Spare carriage and wheels 1800



as usual I hope to get so near to the enemy that I don't need 'em." This statement may explain why sights were unnecessary, not only on ships but in the field.

Napoleonic Wars

In the Napoleonic wars the devotion to duty and fine spirit of the gunners was more marked than the development of the gun. This recovery of its high reputation and the accompanying increase in the morale of the gunners, enabled the artillery to take its place as one of the most important arms in the forces. The man who had once criticized them, Sir John Moore, was to report very differently when, after the retreat to Coruna through terrible hardships which led in some cases to straggling and indiscipline, the artillery was found to have not one straggler out of a strength of eleven brigades of guns. "The artillery," said Sir John, "consists of particularly well-behaved men."

The Duke of Wellington

That there was no love lost between Wellington and the artillery is beyond doubt, and though clashes between the two were frequent they did not affect the behavior of the gunners in action, a good example of the excellent discipline running through the whole regiment at this time. It must be remembered that the artillery was controlled and administered by the Board of Ordnance and therefore did not consider itself subservient to the Commander-in-Chief, a situation that was anything but pleasing to him. For instance, at the battle of Waterloo our infantry formed square to receive the French cavalry. "An intense fire of grape shot was maintained until the cavalry were right on the guns, when by the Duke's order, the

gunners withdrew to the shelter of the squares: each time the cavalry recoiled from our unbroken infantry, the gunners again manned their guns and fired into the retiring enemy. The gunners of Captain Mercer's troop however never left their guns, and the cavalry never got through them . . . ." (Graham).

Yet of this action the Duke complained that the artillery did not obey his orders but moved their guns, ammunition, and everything else from the squares. There is no evidence of any kind to support his statement and plenty to disprove it. The

Royal Artillery never forgave the Duke for this unjustified attack upon them, but in fairness to him it must be admitted that the gunners took advantage of their status in not being under direct control of the Commander-in-Chief. General Foy, one of Napoleon's finest artillerymen, did not share the Duke's opinions. Of the artillery he wrote, "The English Gunners are distinguished from the other soldiers by their excellent spirit. In action their handling is skilful, their aim perfect, and their courage supreme."

Perhaps General Foy was right, for the Napoleonic wars gave the artillery its first great hero in Norman Ramsay, whose name will live for ever in the history of the Regiment. After being completely surrounded by the French cavalry at Fuentes de Onoro (1811) and given up for lost, he galloped through them with his guns and detachments complete. His bravery and devotion to duty have served as an example and inspiration for all gunners ever since.

Lessons from the Wars

Experiences during these wars led to an extended use of the Horse Artillery and eventually to an improvement in the mobility of field artillery, for, after a decisive defeat of the French at Oporto in 1809, when the retired in Galicia with the English hot in pursuit, it was found that a 3-pr. brigade was the only one able to keep up with the rapid advance of the army.

The Horse Artillery at this time teamed their horses in pairs between shafts (although all foreign powers favored single pole draught), the gunners being mounted on the carriage or on horses. Field artillery still retained the old system of marching with their guns, the officers and Nos. 1 being the only mounted personnel.

An interesting experiment was carried out at the siege of San Sebastian in 1813, which was perhaps the forerunner of the creeping barrage. "Our infantry advanced to an assault with the guns firing over their heads and lifting their fire at the moment the final charge was made; a feat which proved the skill of the gunners as well as the accuracy of their pieces" (Graham). After our victory at San Sebastian the French retired into France across the Pyrenees, and in following them we discovered that no artillery we possessed was suitable for mountain climbing. Great difficulties were encountered in moving our guns in this unusual terrain, and it is not surprising that the establishment

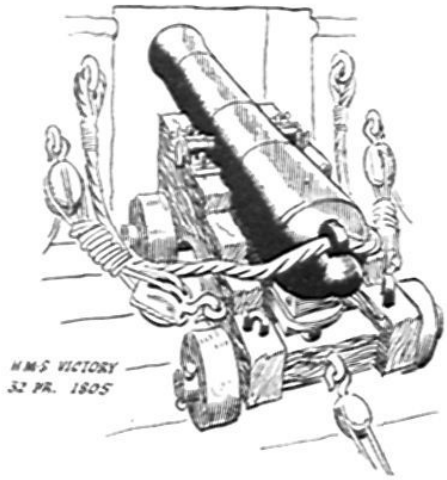
of the first mountain battery followed. It consisted of three-pr. guns carried on the backs of mules, with mixed British and Portuguese personnel.

Shrapnel's shell having been introduced to the service in 1804, proved its worth four years later when it "wrought terrible havoc on Marshal Ney's divisions." It acquired a just reputation as the best man-killing projectile in use.

Perhaps the first hint of the great changes soon to come was the invention in 1807 of a powder that could be fired by concussion. This was introduced by a clergyman named Forsyth. It was a very important discovery for it revolutionized the method of firing the propellant charge.

NAVAL GUNS AND COAST DEFENSE

At sea there was surprisingly little change since the first days of the gun either in the guns themselves or the methods of firing. The drawing shows a 32-pr. on board the *Victory*. Compare it with any piece of 200 years before and notice the similarity. Elevation was still obtained by means of the quoin or wedge, while the only advance on checking recoil by means of *"soft substance"* around the mast, seems to be that of anchoring the piece to the ship by a breeching passed through an eye on the cascable. The number in the detachments for these guns was decided by allowing one man for each 500 lbs. of metal, the 32-pr. of 32 cwt. therefore had a crew of seven. It is interesting to consider that were we to use the same system today we should require a detachment of 1,700 for one of our modern heavy guns.



The guns of the Coast Defense differed very little from the heavy siege pieces in the field. Their fixed carriages contained nothing of special interest, the checking of recoil being achieved in some cases by sloping run-ways while in others the anchoring of the carriage and piece to the walls of the fortress was used. The garrison standing carriage was identical with that used in the Navy.

AFTER WATERLOO

Even though previous experience had proved that the system of ruthlessly disbanding a large army on completion of a war was unsound, no exception was made after the Napoleonic wars. When peace was declared in 1816 the bulk of our large army was immediately disbanded, and the Royal Artillery and Royal Horse Artillery were reduced to nothing more than a skeleton staff. During the period of twenty years or so after Waterloo, neglect and apathy played their part and no progress in equipment was made during this time. Indeed, when we

entered the Crimean War we used cannon that had been used at Waterloo. Some progress was made however, in organization. The corps of R.A. Drivers disappeared in 1882 when all enlistments were as "gunner and driver," the idea being that every man should be trained to perform both duties.

By this time and in spite of occasional periods of unpopularity the artillery could claim a glorious and long record of battle honors. Each unit wore its own individual battle honors, but these were becoming so numerous that in 1833 the word "Ubique" (everywhere) was used to replace them. At the same time the privilege of bearing the Royal Arms over a gun with the motto "Quo Fas Et Gloria Ducunt" ("Whither right and glory lead") was granted by William IV and eventually replaced the old Board of Ordnance badges. The gun, probably a 9-pr., was a design of one used at Waterloo.

A big change in the affairs of the artillery was to come following the experiences of the Crimean war. During the first winter of this war the complete breakdown of transport and hospital facilities led to an inquiry's being made, the result of which was the abolition of the Board of Ordnance after 400 years of unbroken power. The Artillery and Engineers at last came under the direct control of the War Office and Commander-in-Chief like the rest of the army.

Ever since Forsyth had invented percussion powder in 1807 experiments had been continuous and in 1845 the percussion tube introduced by Mr. March of the Royal Arsenal Surgery was approved for the army. This tube was ignited by being struck by a hammer fixed on to the gun, and brought down on the tube by the pull on the lanyard. It is significant, however, that their efficiency was not complete, for the old port-fire and slow-match were still carried "just in case."

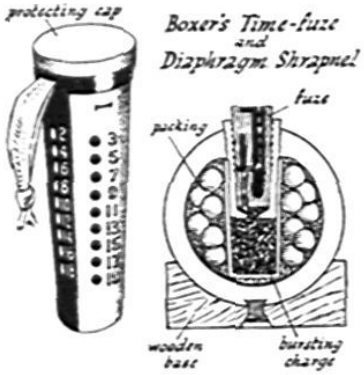
Friction tube
1867

Following this important step the friction tube was introduced in 1867. This was similar to the percussion tube except that detonation was affected by means of a roughened bar passing through a detonating composition. On the pull of a lanyard this bar would set up the amount of friction necessary to detonate the powder and fire the propellant charge.

This tube was a decided improvement on the percussion tube which was declared obsolete in 1866.

BOXER'S TIME FUZE

Until the middle of the 19th century there was little or no improvement in time fuze construction. The repeated failures of shrapnel shell made an efficient time fuze very necessary, and in 1849 Capt. Boxer proposed his wooden fuze which fulfilled nearly all requirements. Improved during the next few years, it consisted of a wooden cone with a center channel of powder and side channels filled with pistol powder. These side channels had radial holes bored into them at close intervals representing fractions of time. They were then stopped with clay and the whole fuze covered with paper and numbered at the appropriate holes. To set the fuze a hole was bored straight through to the center channel at the required length of burning and the fuze then placed in the shell. On being fired the flash from the propellant charge passed over the whole of the shell (due to windage in the bore of the gun) and ignited the powder in the center channel, which burned down until the bored whole was reached. The flash then passed down the side channel and so into the shell, exploding it. Diaphragm shrapnel with the bursting charge separated from the bullets was an improvement on the early patterns where the bullets and powder were mingled together. This earlier system caused premature bursts owing to the friction set up between powder, bullets, and shell, which of course could not occur with the introduction of the diaphragm.



(*To be continued*)

ARTILLERY IN AN ENCIRCLEMENT

By Lt. Col. Edward S. Berry, FA

The drive to close the Falaise Gap began on the 13th of August. The route followed was from Mayenne to Le Ribay (*where the first opposition was encountered*), Javron, Pre en Pail, La Lacelle, Ciral, Carrouges, and Ranes. Fifty prisoners were taken at Pre en Pail by members of the battalion while one position was being occupied. They had been hopelessly by-passed by the speed of the advance. From La Lacelle the route turned due north toward Ranes, with the intention of making contact with British forces attacking southward and sealing off the escape route of the retreating German Seventh Army. As a consequence the Germans contested this northward move across their rear with utmost determination, using large panzer units against our forces.

At 1942 hours the battalion occupied a wooded hilltop 3,000 yards south of Ranes. It was necessary for the artillerymen, fighting as infantry, to seize this position forcibly from the enemy; at least forty prisoners were taken in the process. One group of twenty-seven who had taken cover in a farm house, were flushed out with hand grenades by members of Battery C. Ten vehicles of a supply train with their crews were captured in a sunken road beside the position selected for the fire direction center and command post. When the enemy had finally been cleared from the immediate area, road blocks and a strong outpost line were set up around the position. Contact with the enemy was maintained on the battalion's left flank during the night and on the following day.

Meanwhile, missions were fired in rapid succession against antitank guns and tanks which were holding up the advance of the leading battle group into Ranes. At 2310 forward observers of the battalion reported that a small isolated strongpoint had been organized by part of our task force in the southern part of Ranes. Another of our observer parties at a road junction half way forward directed neutralization fire on enemy antitank guns, thus permitting reinforcements to drive through to join the force cut off in Ranes.

During the night of 13-14 August lines of communication were cut by strong enemy road blocks of tanks and infantry both in rear and in front of our battalion position. Combat Command headquarters had joined us prior to this time, and the 391st Armored Field Artillery Battalion had come up close in our rear with the mission of reinforcing our fires. We began to think of ourselves as a fairly secure strongpoint.

Through efforts of a forward observer party with our leading elements in Ranes, on the morning of 14 August, the road block to our front was destroyed by our artillery fire in combination with dive bombers, which knocked out the PzKw V tanks while we obliterated the platoon of infantry which was in support. The target was marked with red artillery smoke to guide in the bombers on this very ticklish mission, which was performed only a short distance in rear of our own strongpoint at Ranes.

A third task force of Combat Command A came forward rapidly to our relief from in rear of the artillery position. En route it destroyed the German road block that had cut us off from all supplies and communication. Our ammunition

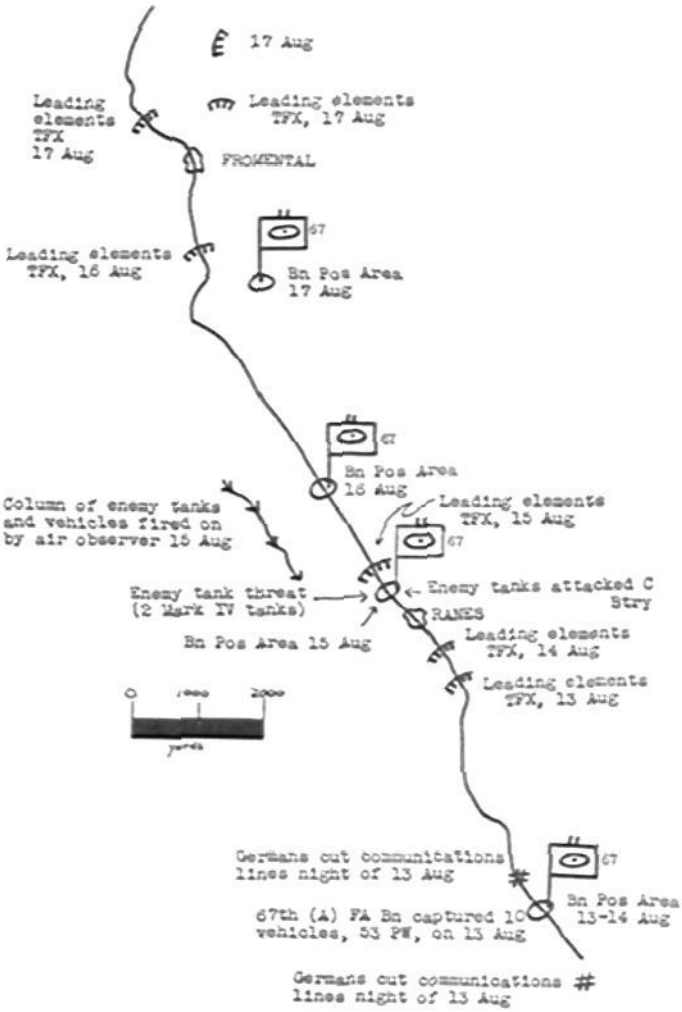
trains which had been waiting at Carrouges came through immediately, firing antiaircraft weapons at dismounted Germans along the route in our rear as they advanced. This relieved the strained situation in ammunition and enabled the battalion to continue delivering effective artillery support for the task force.

Fire during the day was continuous. The battalion Air OPs located flak batteries, rocket guns, and many columns of enemy vehicles (including much armor) on the roads to the north. Six hundred rounds were fired on one of these columns in a single mission, causing enormous destruction and completely stopping the advance of the German column.

All resistance in Ranes was overcome during the morning of the 15th, and leading elements of the Combat Command drove through toward Fromental in a continuation of the drive to the north. The leading battery of the battalion moved out with the leading battle group of the task force in a typical advance guard formation. The rapid advance was shortlived, however, and resulted mainly in shortening our range to the critical east-west road through Fromental. At 1445 hours Battery B went into position only 300 yards from the point, which had established light contact. The remainder of the battalion was rapidly built up in this vicinity as the remainder of the task force was coiled forward. Other elements of the Combat Command were moved forward on another road on our right leading to the northeast. The 54th Armored Field Artillery Battalion joined us in groupment and leap-frogged with us in displacements along the main route throughout the remainder of the action. The entire area occupied by our troops was under heavy enemy artillery fire at this time.

Three enemy tanks attacked the flanks of the artillery position almost immediately. One of these attacked Battery *C* with fire, destroying one ammunition trailer and damaging one M7, which was put out of action. Another of our M7s took the tank under fire with HEAT shell and destroyed it. The other two penetrated to a point 150 yards from Battery A's position, where they were knocked out by tanks from our task force. Woods and hedgerows limited visibility through this action. Both flanks of the Task Force's position were again covered by dismounted artillerymen. Three more prisoners were taken and casualties were suffered.

Shortly after the advance on Fromental was resumed, another enemy counterattack was liquidated by artillery fire adjusted from one of the battalion's airplanes. A large enemy force took part in this attack, which approached on a secondary road between our Combat Command and Combat Command B, which had been committed only a short time before on another route out of Ranes on our left. The enemy tanks attacked the second battle group of Combat Command A's column in flank, knocked out several of our tanks (including one forward observer tank from each artillery battalion) and a number of other vehicles, and caused a large number of casualties. Later inspection of the damage caused the enemy by this fire mission, which completely stopped the German attack, disclosed about thirty trucks and halftracks and one PzKw V tank destroyed. Heavy tree growth along the route of advance prevented the tanks in our column from



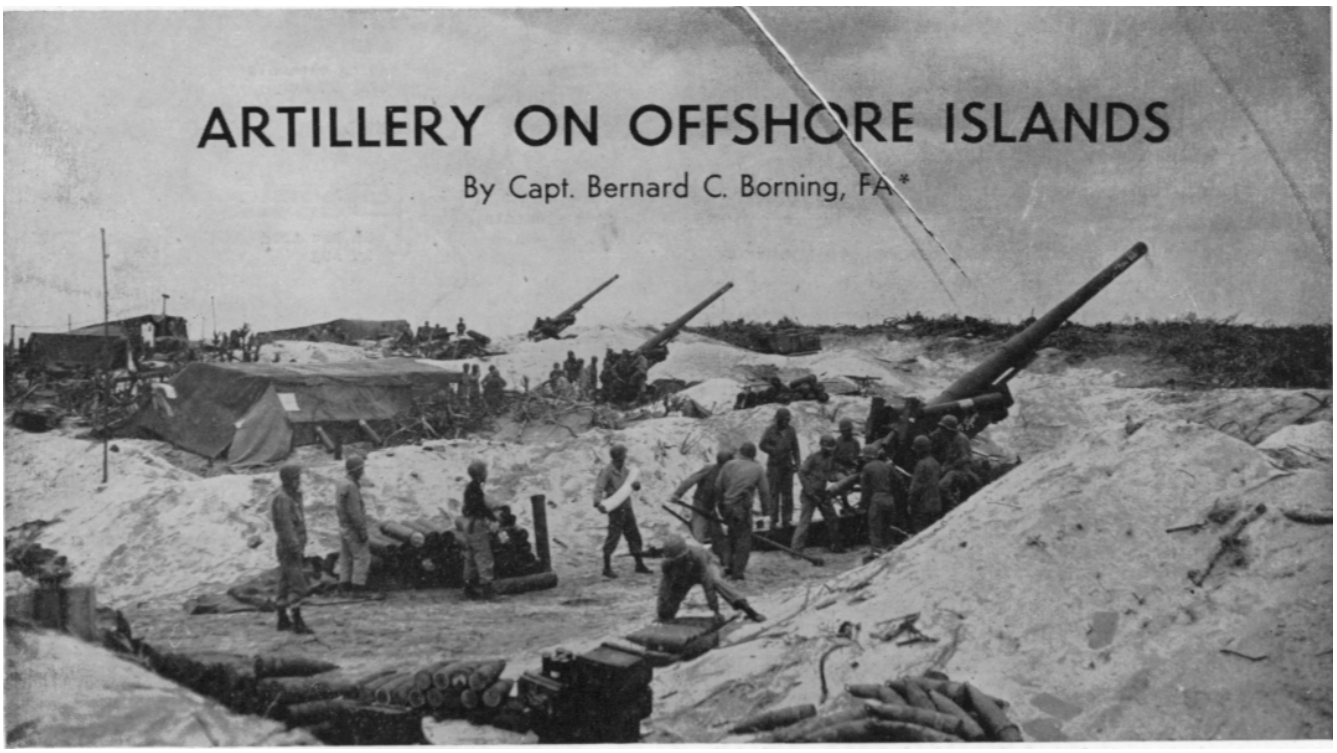
bringing effective fire on the enemy force, and the effort to split our forces might easily have succeeded had it not been for the effective artillery fire.

At 1200 on 16 August the 67th Armored Field Artillery Battalion displaced forward again. Once more the battalion was attacked from the still vulnerable left flank, while occupying its positoin. This time it was by very heavy mortar and artillery fire, which caused the battalion and other troops in the vicinity severe casualties. An alternate position in the vicinity was occupied by the batteries worst hit and fire support continued.

The fight for Fromental proceeded, with the artillery forward observers taking a most active part as the town was taken, lost, and retaken on the 17th of August. A final displacement was made to a position southeast of Fromental, where a strong artillery echelon was set up consisting of the two armored battalions. Another heavy artillery shelling received by all troops in this vicinity caused a number of casualties. All units held their ground steadfastly, however, while continuing to furnish deadly supporting fire ahead of the task force. Contact with the British ended the action which had been fought against the finest Panzer units of the German Army.

ARTILLERY ON OFFSHORE ISLANDS

By Capt. Bernard C. Borning, FA*



From a tiny island four miles west of Okinawa, where they were landed the day before the invasion, 155-mm guns fired in direct support of the infantry as they hit the beach.

What service schools used to call a weak link in amphibious operations—the period after the doughboy hits the beach, and before artillery lands and starts firing—isn't so weak any more. Okinawa was another example.

Part of the solution is to emplace artillery on an offshore island in advance, and have the big guns in there pounding when the infantrymen keep their H-hour appointment on the main beaches. This furnishes that extra punch when its most needed to make the landing stick. Of course, this still doesn't obviate the need for rushing other artillery ashore as close behind the initial assault waves as possible.

Back at Fort Sam Houston last year, when a group of us artillerymen suddenly found we were the Artillery Section, Tenth Army, we started studying previous Pacific operations, looking for angles to make artillery support more useful to the doughboy who actually takes the islands. We noted how the idea worked out at Kwajalein, Eniwetok, and Tinian.

At Oahu, when Tenth Army got the mission of Okinawa, the artillerymen immediately began study of maps and intelligence reports to locate suitable offshore islets for emplacing pre-H-hour artillery. They found some. In fact, the idea worked three times in the Okinawa campaign.

First was Kerama Retto. Plans called for the 77th Infantry Division to capture this group of islands southwest of Okinawa starting on Love-minus-six. On the morning of the appointed day, 26 March 45, the assault waves hit the first island, Geruma Shima. This island, one of the smaller ones in the southern part of the group, was to be the "artillery island" for supporting capture of the others.

By 1130 Geruma Shima had been secured, and by 1300 two 105-mm battalions of the 77th Division Artillery started coming ashore in "Ducks." This artillery proceeded to throw preparation fire across the water at Tokashiki Shima, biggest island of the group, scheduled to be invaded next day. Principal targets were the landing beach areas and Tokashiki town, where Japs were thought to be concentrated. A GI radio broadcaster thought it was such a good show that he made a 10-minute canned broadcast on the spot.

Next day the doughboys stormed ashore on Tokashiki's western shores. The beachhead was ringed with steep cliffs and commanding high ground where Japs could have made plenty of trouble, but the landing met no opposition. Most of the Japs were on the north half of the island. The advance shelling might or might not have persuaded them to move from the landing area. The point is that artillery had been set up in advance and was ready to furnish close support at the call of the landing infantry. When men of the 77th did meet up with the Japs, the infantry-artillery combination functioned as usual. A few days later Kerama Retto was ours.

The second example of offshore artillery was in connection with the landing on Okinawa itself. On Love-minus-one the 420th (heavy) Field Artillery Group, commanded by Col. William C. Lucas, inched in close and set up practically in the enemy's front yard—only 10,000 yards offshore

*Hq XXIV Corps.

from Naha, on the tiny coral islands of Keise Shima. Covered by naval guns, men of the 531st and 532d Field Artillery Battalions landed over tough reefs and promptly set to work building causeways and unloading their 155-mm Long Tom guns.

By late that afternoon the twenty-four guns were emplaced and in firing position. Adjusting with an artillery observation plane launched at sea, the heavies registered on Okinawa and by dark were ready to back up next morning's infantry landing on the main island.

On Easter Sunday morning when four Tenth Army divisions hit 10,000 yards of Okinawa's western beaches, and the other artillery was still floating, these Long Toms were throwing shells. From their positions on Keise Shima they could cover practically the entire southern half of the island.

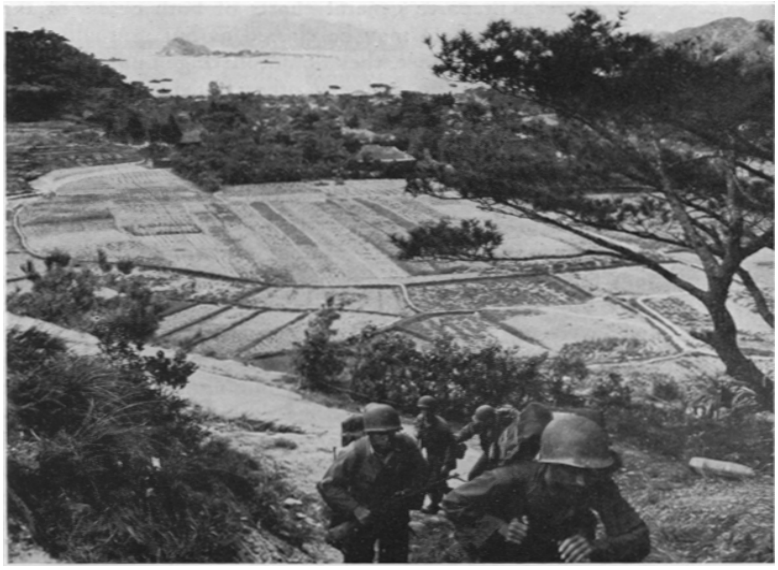
Ten cubs can be carried aboard an LST: six along the runway and four in cradles. The runway, 220 feet long and 16 wide, is used for take-offs only.

Exemplifying another maximum of artillery employment in an amphibious operations, this other artillery didn't stay afloat long. Close behind the first assault waves, twelve battalions of army and marine artillery moved swiftly ashore for close support. By nightfall of Love-day eighteen battalions had been landed, emplaced, and put in action on Okinawa.

The third example is probably the best instance of offshore artillery's actually running interference during an initial landing. This occurred in the 77th Infantry Division assault on Ie Shima, an island northwest of Okinawa's Motobu Peninsula.

Landing day for this operation was set as 16 April. On 15 April, following the previous pattern, artillery rolled into position on a smaller offshore island. This time it was Minna Shima, from which artillery could nicely cover the objective island of Ie Shima. The 77th Division Artillery put ashore three of its battalions—two lights and the medium. Immediately the artillery started a cub strip and go their thirty-six howitzers ready to support the Ie Shima landing to follow.

Next morning, behind close artillery support, doughboys of the 77th Infantry Division assaulted the beaches. Ie Shima has been described as "a billiard ball." From the island's high center Jap mortars, small arms, and antitank guns opened up on the beachhead. The *Texas* and another battlewagon a few thousand yards southwest of the island were throwing 16-inchers at the Japs, but their flat-trajectory guns couldn't get at the Nips on the reverse slopes.



On Zamami Shima, troops of the 77th Inf Div advance along the road to Asa Zamami town, In the background can be seen the beach where the original landing was made.

At this point, as one soldier remarked, "That artillery on Minna Shima came in damn handy." The howitzers began dropping higharchers on the defiladed enemy positions. The Japs that weren't killed were kept down in their caves and holes long enough to let foot troops get in close and take care of them. Official reports say something like 4,300 Japs were killed on the tough little nut called Ie Shima. Doughboys who were there claim the artillery on offshore Minna Shima was a big help in cracking it.

These examples only go to show that modern amphibious tactics haven't outmoded the necessity for the old artillery-infantry teamwork. In view of America's farflung island defenses in the Pacific, it will be wise for field artillerymen to continue thinking in amphibious terms.

Key To A Better Understanding Of Maps

By William H. Gill

Republished by Courtesy of "The Military Engineer"

At times, it may be difficult for the casual observer readily to differentiate between maps and charts, from their physical appearance alone. The following descriptions will be of assistance in this regard.

MAPS: A map presents the aspects and component parts of the solid earth, either on, above, or below the datum plane, which is usually specified as mean sea level. It depicts features of its planimetry, topography, structure, and cultural exploitation. Such features are of the fixed, motionless, or immobile variety, insofar as the human eye can discern, such as the physiography, drainage, and geologic structure.

CHART: A chart depicts the transitory position, direction, or course of dynamically motivated objects, bodies, or features of natural phenomena traversing the water, air, heavens, or the depths of the oceans. Thus charts may be *hydrographic* when depicting the navigational courses of vessels at sea or the currents of either an ocean or river; *stellar*, when they depict the positions and orbits of star bodies; *solar,* when the course and seasonal positions of the sun are shown; *aeronautical,* when they plot the routes of air transport; *meteorological,* when they show the courses of moving storms and atmospheric currents contributing thereto; and *magnetic,* when they record isogonic data, such as lines of equal magnetic declination, dip, horizontal and vertical intensity, and of equal annual change thereof.

While it may still be assumed, by some, that an overlapping of functional mapping fields exists between several of the Federal bureaus, this is not essentially true. The specific fields and functions of bureaus engaged in terrane mapping and maritime charting were sharply defined by early legislative directives, and such assignments have been consistently maintained throughout the ensuing years, except during periods of national crisis.

MAJOR CARTOGRAPHIC FIELDS AND MAPPING ACTIVITIES

The broad fields of cartographic endeavor may be roughly described as Terranean, Subterranean, Hydrographic, Aerial, Celestial, and Physical. Major Federal mapping activities conducted within such fields are Topographic and Planimetric, Geologic, Navigational, Cadastral, Drainage, and Political or Boundaries.

TOPOGRAPHIC AND PLANIMETRIC: This type of map, in quadrangular form, is produced by but four governmental agencies: the Geological Survey, Corps of Engineers, Mississippi River Commission, and the Tennessee Valley Authority. The Geological Survey extends its mapping activity over the entire country, as demands therefor arise and funds permit, regardless of prior coverage by other agencies. During normal years the Corps of Engineers produces its tactical quadrangles, either of unmapped areas considered of strategic military value or of those areas previously mapped by other agencies but found greatly in need of planimetric revision. The Mississippi River Commission confines its topographic mapping to the areas of the Alluvial Valley of that river either not covered by the Geological Survey or which were previously covered but found to be in need of remapping. The Tennessee Valley Authority confines its topographic mapping to the basin of that river, for purposes of flood control, conservation, and waterpower study.

GEOLOGIC: The study, culminating in varied types of maps, is conducted solely by the Geological Survey, Department of the Interior. It embraces all fields of geologic investigation and its findings result in maps depicting such aspects of physical geology as Petrology, Lithology, Paleography, and Stratiography, also those of economic, areal, and glacial geology, of Mineralogy, Oil and Gas, Hydrology, and Physiography. Many such maps, however, being prepared solely for inclusion in scientific reports, are not produced for general distribution.

NAVIGATIONAL: This class of hydrographic chart is produced by three Federal agencies; the Hydrographic Office, Navy Department; the Coast and Geodetic Survey, Department of Commerce; and the U. S. Lake Survey, War Department. The Hydrographic Office confines its charting to the high seas; to the coasts and harbors of other countries of the world; and to the Canadian sections of the Great Lakes and the St. Lawrence River. Although that bureau prepares general charts of both coasts of the United States, these may be classed as but mutually supplementary ones; hence, they do not infringe upon the fields of intensive charting assigned other bureaus. The Coast and Geodetic Survey confines its navigational charting to the coasts, harbors, anchorages, and territorial waters of the United States, its insular possessions, and to Alaska, in the interests of commercial navigation. The U. S. Lake Survey is held responsible for the hydrographic charting of the American sections of the Great Lakes and their connecting waterways; a like section of the St. Lawrence River; and those sections of the rivers and canals of New York which comprise the St. Lawrence-Hudson-Lake Ontario waterway system. Its charts are navigational ones, showing channels, depths, maximum and minimum seasonal water levels, and such shore land forms as serve as guides to lake-wide shipping. This bureau does not map other inland lakes of the country, with the exception of the larger ones draining into either the Great Lakes or the St. Lawrence River. The functional fields and activities of these three bureaus, each engaged in the production of navigational charts, has been stressed in view of the measure of perplexity now extant as to their respective assignments. The confusion attendant upon the ready identification of such

charts may be attributed largely to the fact that a striking similarity does exist in their general appearance.

CADASTRAL: This class of survey is conducted by the General Land Office and the National Forest Service. The General Land Office, although charged with the subdivisional survey of all public lands of the country for settlement purposes, does not survey homestead or other sites of settlement, use, or lease within National Forests or other reservations, except as a mattery of courtesy or co-operation. It does, however, sectionalize and monument the public lands within such reserves, in order that the specific bureaus under which they are administered may tie their homestead and use surveys to the Federal land net so established. The Land Office, although the fact is not widely known, subdivides only the lands of those states not included in the Original Thirteen Colonies, with the exception of Texas, which has its own state system of subdivision.

DRAINAGE: Rivers are mapped by the Geological Survey, the Corps of Engineers, the Mississippi River Commission, and the Tennesee Valley Authority. The Geological Survey maps only the smaller or non-navigable rivers, in its study of flood control, water resources, watershed protection, and potential power development. The Corps of Engineers maps the navigable sections of the larger rivers and estuaries as a measure of National Defense. Such watercourses may, at some time, be called upon to transport troops and materiel both to and from the large interior industrial centers of the nation, while the harbors at their mouths are essential for the anchorage, protection, and dock facilities afforded naval vessels. The Mississippi River Commission maps that stream for its navigable extent in its study of flood control and conservation, and charts the river in the interests of naval and commercial navigation. The Tennesee Valley Authority maps the Tennessee River and its tributaries, but only in the interests of flood control, land conservation, preservation of natural resources, and power development.

BOUNDARIES: This class of survey is conducted by two bureaus, each operating under the Department of State: the International Boundary Commission, United States and Mexico, and the International Boundary Commission, United States, Alaska, and Canada. The former, as its name implies, is charged with the survey and marking of the boundary on the south, and exercises jurisdiction over all questions affecting both the land and water portions thereof. The latter was created for the specific purpose of surveying and marking the entire boundary between the United States, Alaska, and Canada. It has surveyed this boundary in three sections; the Alaska-Canada Boundary Survey, from the Arctic Circle south to the Dixon Entrance of Hecate Strait, its southernmost extremity; the United States-Canada boundary, from the Strait of Juan de Fuca to Lake Superior; and the international boundary from its intersection with the St. Lawrence River to the Atlantic Ocean. That section of the boundary through the Great Lakes was mapped and marked by the International Waterways Commission, from the western extremity of Lake Superior to the intersection of the international line with the St. Lawrence River.

MAPPING METHODS

Federal maps and charts are produced through the medium of four widely divergent methods of cartographic

procedure. The standardization of both procedure and results, as specified for (and obtained through) the medium of each of these methods should, if fully understood, assist one in arriving at a better understanding of the comparative use-value of maps produced thereby.

INSTRUMENTAL SURVEYS: This method is employed in the establishment of geodetic control and levels; in the preparation of standard topographic quadrangle maps; in the making of cadastral maps and plats; in the triangulation and depth sounding for hydrographic charts; and in the laying out of highways, canals, pipe lines, and boundaries. Instrumental surveys represent essential field activities on both land and water and require the services of engineers highly trained in surveying, geodesy, astronomy, navigation, hydraulics, and the interpretation of topographic forms. Maps produced by such methods are, in some instances, prepared in the field and brought into the office only for refinement, inking, and lettering, while others are made in note-book form in the field and drafted therefrom in the office. Regardless of which procedure is followed, however, the maps resulting from such surveys are considered of a high and equal degree of accuracy.

STEROPHOTOGRAMMETRIC MAPPING: This is one of the relatively newer processes in the field of cartography, also one which has been developed to a high degree of efficiency. Through the employment of several of the more satisfactory types of stereo-plotting machines, notable among which are the multiplex projector and the aerocartograph, the preparation of topographic maps is being accomplished with the minimum of either computation or the field activity formerly engaged in by the topographic engineer. This process is, for the more rugged and heavily timbered types of country, equal if not superior to the former field survey in accuracy, time of coverage, and costs, although this does not at present hold true for the more level and open plain sections or of river bottoms. In brief, the operation consists of determining from measurements made on a stereoscopic model, all data necessary for the essentials of the map. This process requires a high proficiency of machine operators trained in the art of stereoscopic observation and in cartographic delineation. While the technical knowledge of the topographic engineer is not absolutely essential to such activity, his skill both can and does operate to enhance the value of the finished product in the matter of proper presentation of the topographic forms.

FIELD RECONNAISSANCE: This antiquated and all but obsolete method of mapping, while used extensively by all Federal agencies at an early date, is now employed in the preparation of maps designed largely for either preliminary or temporary use only. It consists of field traverse based upon either pacing or on the measured revolutions of a wagon or buggy wheel; by angular determination of both the position and elevation of the more prominent eminences lying within the area being mapped; and visual sketching of the terrain extending between the points of vantage so occupied. This method is now looked upon as but a transitory one in the evolution of cartographic endeavor, although it is still employed to a limited extent in the filling-in of areas of lesser importance in topographic surveying. This is the least accurate of all methods of map production.

OFFICE COMPILATION: This process, in cartographic endeavor, while it lies entirely without the realms of field surveying activity, is dependent to a great extent upon both field surveys and established geodetic control points. It consists of plotting such points upon a scaled projection of latitude and longitude; tying thereto a network of river, railroad, highway, and boundary surveys; the incorporation of all field surveys falling within the area under mapping; and the filling-in, by careful and experienced adjustment methods, of miscellaneous map data of those areas for which highly accurate and controlled material is not available. Although this is a method not requiring a definite knowledge of instrumental field surveying, and one which can be conducted in its entirety by an experienced cartographer, a working knowledge of survey procedure can enhance the accuracy of the product and thus increase its ultimate use-value. Office compilation is employed in the production of all types of chorographic maps, except those resulting from field surveys, and is essential in the preparation of world, hemisphere, continent, national, state, county, district, and area units, for both general and special use purposes.

BROAD STRUCTURAL MAP DIVISIONS

The broad structures of cartographic effort may be placed in the classes of Skeletal, Outline, Basic, Geographic, Political, and Index. Each differs radically in structural presentation and is both designed and employed for a specific purpose.

SKELETAL: Being designed for ultimate employment in special project use, such maps show only the limiting lines of the unit depicted. They may show major political boundaries, but no drainage, culture, or lettering. They are usually not on a projection and are designed primarily, for the superimposing thereon of distributional, proportionate, quantitative, or statistical data by color line, or pattern. They may be for any unit of covering desired, on any scale, and in any size.

OUTLINE maps are constructed on a projection and to scale, both showing and naming national, state, province, and county boundaries, but no minor civil divisions, drainage, culture, or settlement. They are usually employed for index purposes, or for the superimposing of special data thereon.

BASIC maps are constructed on a projection and to scale, showing and naming national, state, county, and reservation areas. Also they may show and name principal drainage, major settlement, railroads, and large bodies of inland water. No physiography, elevations, or special cultural features are included. Sometimes they are used as a base for the superimposing of either special or index data.

GEOGRAPHIC: These are the most complete of all basic types of cartographic structures, showing and naming all political subdivisions, except the minor ones. They also present such wealth of drainage, culture, settlement, and physiography as the scale and size of the unit will graphically carry. Usually they are prepared in continental, national,

state, or area unit form, for incorporation in atlases and geographies, and are generally presented in multi-color printings.

POLITICAL maps show and name national, state, county, and minor civil divisions, in addition to major settlement, but no drainage, railroads, or other cultural features. They are usually employed in the showing of special statistical data pertaining to census activities.

INDEX maps show major drainage, political subdivisions and settlement, subordinated in tone in order that they will not interfere with the graphic presentation of the special data to be superimposed. Both basic and outline maps may be employed for such purposes, with the index data superimposed in either black or by color printings.

FORMS OF PRESENTATION AND SCOPES OF COVERAGE

Maps may be presented in the following forms, each complete in itself or as units which permit of joining, one to the other, in order to create a composite whole: Unital, Sectional, Strip, Model, and Globular.

UNITAL: These are maps embracing but one field, usually complete in itself without reference or dependency upon adjacent fields or units.

SECTIONAL: Such maps, usually in quadrangular form and complete in themselves, are so designed that when joined one to the other they present a composite work of like character and for a like purpose. Included in this category are topographic quadrangles, sectional and regional aeronautical charts, basic state maps, transportation maps, geologic folios, township plats, strategic and terrain maps, county soil maps, and the general navigational charts of both the high seas and the coasts.

STRIP: Although these may be classed as sectional maps, in that they are on a like scale and identical in data presentation, they depart therefrom in that they may differ in size, form, and orientation, in order to conform to and cover the course of the route they follow. In this category may be found aeronautical coastal and airport approach and route charts, also river, highway, canal, and boundary surveys.

MODEL: This form of physiographic map is the most graphic of third dimensional presentation, also one of the oldest methods of showing relief in readily appreciable and understandable form, known to man. The art is thought by some to be older than the construction of the linear map itself, having been practiced in its cruder forms by the primitive tribes of the known world. Although it was carried to a high state of perfection about the middle of the nineteenth century the art all but died out prior to 1900, although it was kept alive by the engineer in the form of operational and structional ones on small (hence true) scales and of limited areas, in the study of specific projects. During the present war, however, the practice has been revived and given new impetus by the military in their preparation of both models and model maps, for use in a study of problems involving specific terrain objectives and in landing and beachhead operations. As necessary brevity prohibits little more than a presentation of the various forms of cartographic presentation, the processes by which such model maps are prepared can be touched upon but generally, although it can be stated that the topographic or contoured map is the base upon which these maps are built. They are constructed by varying methods upon such a base and are reproduced through the medium of casting in plaster of paris and recasting from the mold so formed in the same or other plastic mediums to form copies thereof.* Expediency, due to the exigencies of war and consequent haste in model map production necessitated thereby, has resulted in the development of many ingenious methods of both production and reproduction by the military.

GLOBULAR: This type of map may be in two forms of presentation: a flat map constructed upon a global projection, such as hemispherical and polar maps and great circle charts, or a globe constructed by the preparation and mounting of segments of the map upon a globular core of some fabricated material. The true global map is confined in unit of coverage to that of the world, and is usually mounted upon a standard oriented in true polar position.

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*See "Operational and Relief Models" by Maj. Francis K. Wilson in *The Military Engineer* for September 1944, and "Third Dimension Maps" by Col. H. Blee in *The Military Engineer* for May-June 1940.

THE USE OF VICTORY

Republished by courtesy of *Redbook Magazine*

We have won the war. We have, indeed, won the wars—every war which we have been obliged to wage throughout the course of American history.

Each time, when the last shot has been fired, victory rested with us. Without exception we have known—as a nation—how to win victory. Our military record is clear.

The record on our use of victory—our political as contrasted with our miliatry record—is more confused. It is more difficult, apparently, to properly use victory than to win it.

At Cannai in Italy long ago—in the year 216 B.C.—the Carthaginians under Hannibal's command destroyed the Roman Army.

The victory was so complete that, in many languages, the word Cannae became and to this day remains a synonym for total defeat of an army. But it is well remembered that, in the end, it was Carthage—not Rome—which was conquered.

Maharbal, the leader of the Carthaginian cavalry at Cannae, is immortal for two sentences he spoke at that time. Reproaching Hannibal for his hesitation and his softness after the battle, "The gods," he cried, "seem not to bestow upon one man every gift. You know how to win victory, Hannibal; you do not know how to use it."

On countless occasions, in the two thousand years which have intervened, Maharbal's pronouncement became prophetic; but our nation was born under better auspices.

George Washington—as general—won a war; and George Washington—as statesman—well knew how to use victory; for the foundations which he laid are those upon which this nation has grown to a position of power and prosperity unmatched in the history of the world.

Now, as we see our victorious generals dealing with new problems, let us remember that in Washington's experience—in contrast to Hannibal's—they have behind them a most inspiring example of success in the use of victory.

—EDWIN BALMER

MEET Our New OFFICERS AND Council Members*

The new President of The Field Artillery Association, *Lieutenant General Raymond S. McLain, USA*, has had a brilliant and most uncommon military career. He enlisted in the National Guard in 1912, was commissioned two years later, and served on the Mexican border in 1916-17. World War I found him commanding a machine gun company in the 36th Division and participating in the campaigns in the Meuse-Argonne and in the Campagne.

A member of the Organized Reserves for two years after the war, General

Lt. Gen. Raymond S. McLain, USA, President

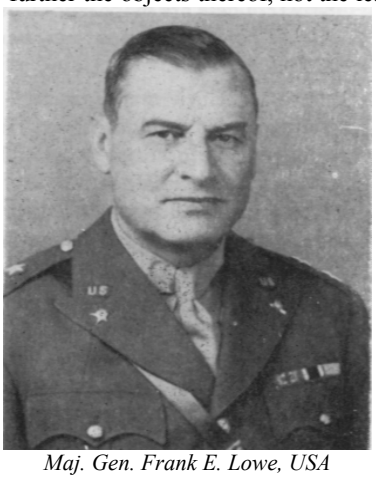
McLain then rejoined the National Guard as a captain in the 179th Infantry. When the 45th Division was organized in 1924, General McLain became its first G-3 and later served as Division Chief of Staff and as Commander of the Artillery Brigade. He went overseas with the 45th Infantry Division as Artillery Commander and fought through the Sicilian campaign, the landing at Salerno, and the campaign north through Italy to and beyond the Volturno River. He was with the 45th Infantry Division Artillery throughout the crucial period of the Anzio beachhead, finally leaving it late in April 1944 so as to reach England just in time to take command of the 30th Infantry Division Artillery for the Normandy invasion. The Editor recalls the rumors current at the time around First Army Headquarters that this fighting artilleryman was "earmarked" for division command. Earmarked or not, after fighting the 30th Infantry Division Artillery through the battles of St. Lo and the Vite River, General McLain took command of the 90th Infantry Division on 31 July 1944, and fought it as part of the Third Army throughout the battle of France from Perriers to Metz. Promoted to major general on 31 August 1944, General McLain returned to First Army on 15 October 1944 as Commanding General of the XIX Corps, which was soon transferred to the Ninth Army. General McLain commanded the XIX Corps with great distinction throughout the historic operations thereafter, until the close of the war in Europe, including the crossing of the Rhine and the encirclement of the Ruhr. He was promoted to lieutenant general on 9 June 1945, and was recently accorded the unusual honor of being nominated by the President of the United States to be a permanent brigadier general in the Regular Army.

Among many other decorations, General McLain wears the Distinguished Service Cross "for extraordinary heroism in action on the 11th, 12th, and 13th of July, 1943, during the campaign in Sicily."

Maj. Gen. Louis E. Hibbs, USA, Vice-President

A banker in civil life, General McLain has been President of the American-First Trust Company in Oklahoma City for the past ten years.

Successful business man, lifetime patriot and civilian-soldier, extraordinarily competent and valorous on the battlefield as an infantryman, artilleryman and higher commander, and now destined for continued service as a general officer in the Regular Army, Lieutenant General McLain brings to the Presidency of the Field Artillery Association every qualification necessary to further the objects thereof, not the least important of which are *"to cultivate, with the other arms, a common understanding of the powers and limitations of each * * * and to promote understanding between the regular and militia forces by a closer bond."* His career itself represents the complete fulfillment of these objects. We are fortunate indeed to have him as President of our Association.



Maj. Gen. Frank E. Lowe, USA

Major General Louis E. Hibbs, Commandant of the Field Artillery School and the new Vice-President of our Association, needs little introduction to artillerymen. Commissioned in the Field Artillery upon graduation from West Point in 1916, General Hibbs' distinguished career has covered a wide field of military activity varying from being Aide to General Douglas MacArthur to commanding the 63d ("Blood and Fire") Infantry Division

*Selected at the annual meeting of the Field Artillery Association. See page 118 for the minutes of this meeting.

throughout its period of strenuous combat in Europe.

Following a tour as Graduate Manager of Athletics at the Military Academy, General Hibbs became Artillery Commander of the 36th Infantry Division in March 1942. He assumed command of the 63d Infantry Division in February, 1943. Interestingly enough, it was the 36th Infantry Division that relieved General Hibbs' Division deep in Southern Germany on 29 April 1945, at which time the 63d Infantry Division had sustained 125 days of continuous contact with the enemy.

During World War I, General Hibbs first commanded a battalion and then became

Brig. Gen. Harold R. Barker, USA

Chief of Staff to the Chief of Artillery, II Army Corps. He was wounded in action during an attack on the Hindenburg Line near Le Cateau. In addition to the Purple Heart with Oak Leaf Cluster and other awards, General Hibbs was recently awarded the Distinguished Service Medal for his exceptionally meritorious service as Commanding General of the 63d Infantry Division in breaking the Siegfried Line, crossing the Rhine, and capturing Heidelberg. Along with the Field Artillery School, our Association is most fortunate in being able to anticipate the continuing help and guidance of an officer of General Hibbs' unusual capacity.

Although he has not been "close to the guns" in recent years, *Major General Frank E. Lowe* of Harrison, Maine, brings a background of experience to our Executive Council that is certain to be highly stimulating and constructive in the changing present. His long and active association with the affairs of the Officers' Reserve Corps culminated in his being selected as the President of the Reserve Officers' Association of the United States for the period 1934-36.

During World War I, General Lowe participated in the Meuse-Argonne Offensive, in the glamorless but vitally essential role of a supply officer and officer in charge of ammunition dumps in the III Corps Artillery. Characteristic of his continuing awareness of national security realities and pressing requirements, General Lowe was among the earliest group of officers to volunteer for extended active duty when World War II loomed, with assignment effective 24 June 1940, in the Office of the Executive for Reserve Affairs. He succeeded Major General John H. Hester, USA, as Executive for Reserve Affairs on 5 June 1941, and was promoted to the grade of brigadier general shortly thereafter. In August, 1942, he was relieved of this assignment and was ordered to the Office of the Chief of Staff as Executive, The United State Senate Special Committee Investigating the National Defense Program, generally known then as the Truman Committee and now known as the Mead Committee, where he is still assigned.

Brigadier General Harold R. Barker has been associated with the Rhode Island National Guard since he enlisted in 1913.

Colonel Jess Larson (FA), GSC

He was commissioned in 1915 and served on the Mexican border in 1916. General Barker commanded Battery "A," 103d Field Artillery, in the 26th Division in World War I and participated in the campaigns of Chemin-des-Dames, Toul, Aisne-Marne, St. Mihiel, and Meuse-Argonne.

Promoted to brigadier general in 1937, General Barker commanded the 68th Field Artillery Brigade initially in World War II, and later the 43d Infantry Division Artillery. He fought the Artillery of the 43d Infantry Division throughout its many strenuous campaigns in the Pacific—Guadalcanal, New Georgia, New Guinea, and Luzon. During the New Georgia campaign, General Barker served as the XIV Corps Artillery Commander in addition to commanding the 43d Infantry Division Artillery. The distinguished character of General Barker's combat record is evidenced by the fact that he wears the Legion of Merit with Oak Leaf Cluster, the Silver Star Medal with Oak Leaf Cluster, the Bronze Star Medal, and the Air Medal.

Well known and highly respected not only in military circles but also throughout New England, General Barker will be a pillar of strength to our Association and our JOURNAL in the continuing purpose of meeting the needs of artillerymen in the National Guard, as it is integrated into our post-war military establishment.

In a sense, *Brigadier General Edward S. Ott* is not a newcomer to the Executive Council of our Association as he served

Lt. Col. Robert B. Neely (FA), GSC

as a member thereof from 1940 to 1942 during his first tour of duty at Headquarters, Army Ground Forces, where he has recently returned and is now serving as Deputy G-3.

From the date of his original commission

in 1917, General Ott's varied career could almost be taken as a model, for it embraces not only an unusually broad staff experience, including the War Department General Staff, but also student and instructor experience at several of the essential general and special service schools—all without sacrifice to an appropriate periodic leavening of command responsibility, both in and out of combat. Such balanced experience guarantees sound, confident, and progressive guidance to Association policy.

General Ott commanded the Artillery of the 91st Infantry Division from June 1942 until September 1943, when he became Corps Artillery Commander of the XV Corps. He commanded the XV Corps Artillery throughout its lengthy and varied period of combat in Europe, which included the campaigns of Normandy, Northern France, the Rhineland, and Central Europe. For his exceptionally meritorious service as XV Corps Artillery Commander, General Ott was awarded the Distinguished Service Medal. In addition to the Distinguished Service Medal, General Ott wears the Legion of Merit, Silver Star Medal, Bronze Star Medal with Oak Leaf Cluster, Air Medal, Purple Heart with Oak Leaf Cluster, Legion of Honor (Chevalier), and Croix de Guerre with Palm.

Colonel Jess Larson, whose home state is Oklahoma, enlisted in the National Guard in 1922. Inducted into the Federal service with the 45th Infantry Division in September 1940, Colonel Larson commanded the 160th Field Artillery Battalion (105 How) of the 45th Infantry Division in the Sicilian and Italian campaigns. He was wounded in action in October, 1943. When he returned to the United States, he was assigned as an instructor in the Department of Combined Arms at the Field Artillery School; there, he later served as Executive and Acting Director of Officers' Advanced and Officers' Refresher Courses. Colonel Larson is presently assigned to the War Department General Staff as a member of the Joint General Staff Committee for National Guard and Reserve Policy, a post of duty which will enable him to be of continuing assistance to our Association and JOURNAL.

Lieutenant Colonel Robert B. Neely was commissioned in the Field Artillery upon graduation from the Military Academy in 1933. His pre-war service included troop duty, tours of duty as student and instructor at the Field Artillery School, and such unusual accomplishments as the acquisition of a CAA Private Pilot's rating and, although the war precluded holding the Games, his selection as a member of the United States Olympic Equestrian Team for 1940.

In January 1942, Lieutenant Colonel Neely was assigned to the 34th Infantry Division Artillery and accompanied the Division overseas in April of that year. He participated in the assault and capture of Algiers as Assistant G-3 of the Eastern Assault Force. He became Division G-3 in February, 1943, and operated in that capacity during the Tunisian and Italian campaigns up to and including the Anzio beachhead. After graduating from the Command and General Staff School upon his return to the United States in May, 1944, Lieutenant Colonel Neely was assigned to the Field Artillery Training Section of Army Ground Forces. In June, 1945, he moved on to the Operations Division, War Department General Staff, his present assignment. Among other awards, he wears the Legion of Merit.

Capable, aggressive, and foresighted—an officer with unusually broad experience for his years of service—Lieutenant Colonel Neely insures a fresh and vigorous approach to the determination of Association policy.

COURSES FOR NATIONAL GUARD INSTRUCTORS

The Commanding General, Army Ground Forces, has announced that as a preliminary step toward the postwar National Guard, courses have been established to "orient and train selected officers for duty as instructors." Taking full advantage of past experience, both in peace and war, these courses are designed to "secure uniform results" and "start all National Guard instructors on a sound basis."

There will be three separate programs of instruction; one for senior state instructors, one for officer instructors other than senior state instructors, and one for sergeant instructors.

Senior state instructors, who will report to the state capital concerned approximately one month prior to the actual reorganization of the National Guard within that state, will first attend a ten-day "orientation course" in Washingon, D. C. It will largely embrace study of War Department policies, National Guard history, and typical training and administrative problems. The Chief of Staff, United States Army, and the Commanding General, Army Ground Forces, are scheduled to appear before this school, together with various outstanding army officers previously National Guard senior instructors and also successful in World War II combat.

The courses for officer instructors other than senior state instructors will run for 30 days at the Infantry, Field Artillery, Armored, Cavalry and Antiaircraft Artillery Service Schools. Each course will have an original capacity of 100, with a class of 50 starting every two weeks thereafter, and will offer refresher instruction on the latest tactics and technique as well as general orientation on the War Department and the National Guard.

The courses for sergeant instructors, also running for 30 days at the Service Schools with 100-pupil capacities, will take up the same general orientation subjects but will additionally drill on specific duties to be performed.

The Cagayan Valley Operation

By Maj. Archibald M. Rogers, FA

Japanese plans for the defense of Luzon were predicated upon withdrawal into mountain defenses situated in three general areas:

1. The Zambales Mountains (west of Clark Field and Ft. Stotsenburg),
2. The Sierra Madre (east of Manila), and
3. The Cordillera Central (north and east of Rosario).

The last area included the formidable defenses in the vicinity of Baguio, and those of Balete Pass, which together blocked the approaches to the Cagayan Valley. Thus enclosed by mountains, the Cagayan Valley was to be defended to the last because it would support the bulk of Japanese troops on Luzon, could be easily defended, and at worst would engage large numbers of American troops for many months; while, at best, with reinforcements, the Japanese could launch a counteroffensive to regain the island.

After almost three months of yard-by-yard and cave-to-cave fighting in which the Japanese resorted to every resource at their disposal, not the least of which was the extremely difficult terrain, the 32nd Division battled over the Villa Verde Trail to make a junction at Santa Fe with the 25th Division, which had overcome the Balete Pass defenses to open Highway 5.

On May 31st, 1945, the 37th Division passed through the 25th and attacked north from Santa Fe along Highway 5. The enemy had fallen back on a series of prepared delaying positions coordinated with a line of fortifications dug into the commanding hills which rise on either side of the highway just south of Aritao. Heavily supported by artillery, armor, and air, the 37th Division broke through these defenses with overwhelming power and launched such a demonstration of fire and movement that the Japs became completely disorganized and never had time to recover sufficiently to halt the advance. Twenty-six days after its departure from Santa Fe the 37th Division had punched 225 miles to complete the liberation of Luzon, leaving in its wake large quantities of destroyed enemy supplies and equipment and large numbers of scattered and dazed enemy troops.

The enemy did offer bitter resistance from well selected positions at a number of points along our route of advance. Only the momentum of our drive prevented him from organizing these positions sufficiently to halt our advance or at least to inflict heavy casualties upon us.

With the crumbling of their Aritao defenses under a terrific blasting by our artillery and air, the Japs destroyed the concrete bridge at the south side of Aritao on the night 3-4 June in an effort to delay our tank-infantry advance. The river was forded, and after a brief fire fight infantry secured Aritao with its vital road junctions.

At 1200, 6 June, Bambang was taken. Under the pressure of our intense artillery fire the preceding night, the enemy had been forced to abandon well situated defenses partially completed at the river crossing between Aritao and Bambang and in the hills just south of Bambang, as well as pillboxes and road blocks in Bambang itself.

The enemy withdrawal had now become a rout, and our artillery fire on the roads and trails inflicted heavy casualties. The hills just south of Bayombong, which offered good terrain for defense, yielded nothing but scattered Nips who were killed or captured in unprecedented numbers.

Our advance proceeded rapidly. Except for several hastily emplaced 75-mm guns which were promptly destroyed, no opposition of consequence was met. The vital junction of Highways 4 and 5 was seized by our troops, who proceeded imediately to drive up Highway 4 and seize Bagabag and at the same time secure the Magat River bridge on Highway 5.

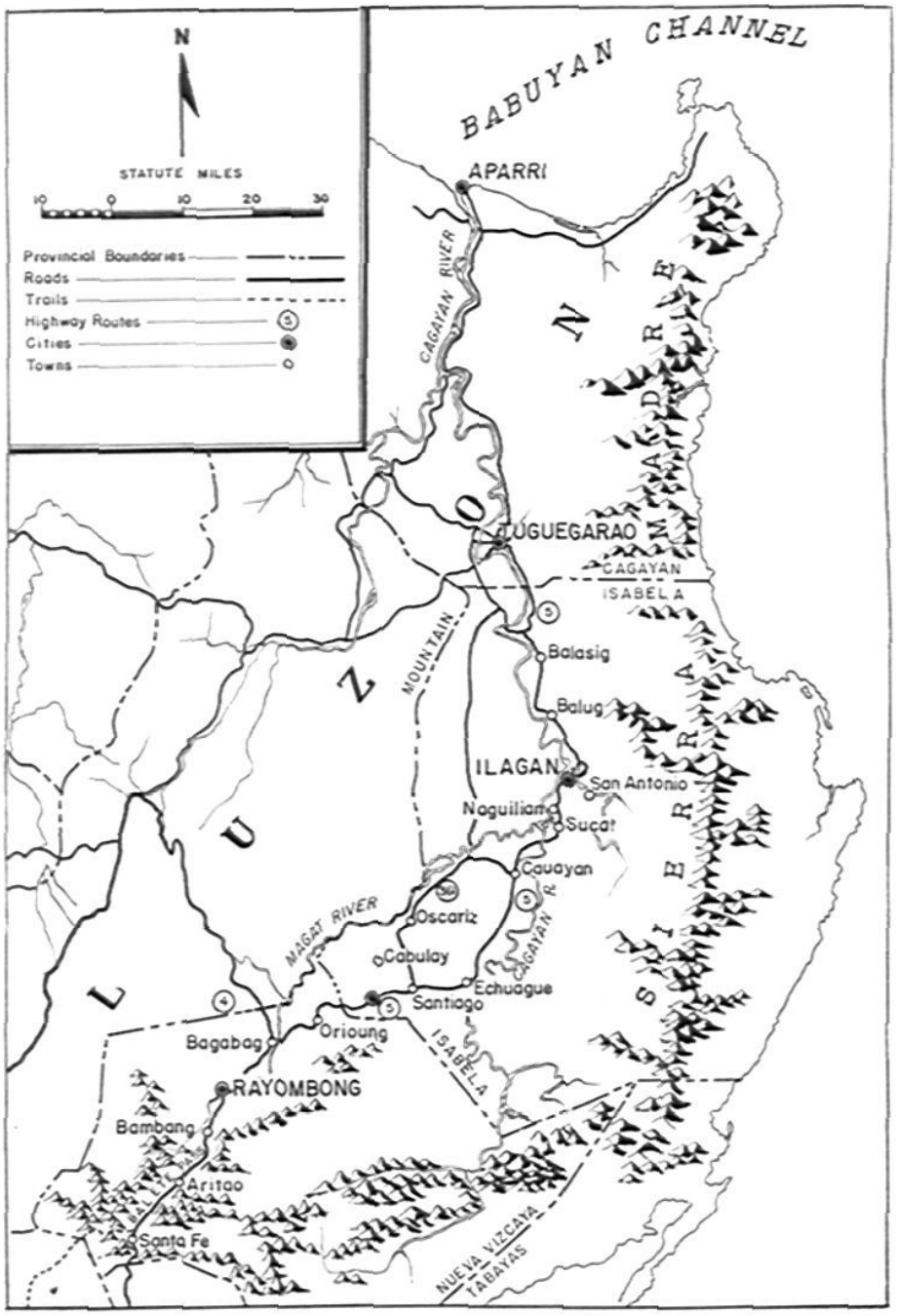
Elements of the Japanese 103d Division had been moved south to construct positions to defend the junction of Highways 4 and 5, the Magat River bridge, and Orioung Pass in the Palali Mountains east of the Magat River. Having completely failed at the first two points, the enemy bitterly contested Orioung Pass in three days of fighting. Two battalions of the enemy were in position at Orioung and two more battalions were in the vicinity of Cordon. Other elements of the 103d Division were being rushed south in an effort to hold the last line of defense before the Cagayan Valley.

The resistance at Orioung collapsed suddenly and our forces drove through Cordon and Santiago to Echague. However, a portion of our forces were occupied for several days mopping up active enemy forces in the Cordon area.

Our advance now split, with one force advancing north from Echague on Highway 5 while another advanced north from Santiago on Highway 361 to Oscariz and thence to Cauayan. The latter force met a vigorous delaying action between Santiago and Oscariz, but dispersed the enemy force in the vicinity of Oscariz.

From Cauayan to the Cagayan River crossing at Naguilian our advance continued unchecked, but at that crossing a strong enemy delaying force was encountered. This force was rapidly neutralized and the crossing secured. It is possible that this delaying force was disposed as part of a plan for an enemy counterattack at Ilagan.

The advance beyond Ilagan on Highway 5 drove through delaying positions at Marana and 300 yards north of Bangag, and then into an organized defensive line 600 yards north of Bangag. Cub observers had sighted a sizable force of enemy tanks southeast of Ilagan along the Ilagan—San Antonio trail. Dispatch of a force along this trail resulted in the destruction of 11 enemy tanks and the infliction



of heavy enemy casualties. Discovery and destruction of this enemy tank force prevented the enemy's launching a strong armored counterattack against our flank and rear while we were engaged with the enemy forces defending Highway 5.

Further advance along Highway 5 developed an enemy delaying force at Balug and subsequently a defensive position in strength at Balasig River crossing. The following day, 23 June, our troops broke through the Balasig defenses and continued rapidly toward Tuguegarao. Commencing at 0130 on 24 June the enemy subjected our troops to an intense shelling: approximately 500 rounds were fired within three hours, most of which fell in the vicinity of the Division CP, 4,000 yards south of Balasig. The enemy artillery had been by-passed by the rapid advance of our forward elements. Forward observers and Cub observers succeeded in partially neutralizing the enemy guns during darkness and with daylight succeeded in destroying six enemy guns two to three thousand yards northeast of Balasig.

Intelligence indicated strong enemy positions at Tuguegarao, where the guerrillas had been able to secure only a foothold on the east side of the Cagayan River against strong enemy resistance. Over 3,000 rounds of artillery fire were placed on these positions during the night 24-25 June and prior to the infantry assault 25 June. The infantry entered Tuguegarao to find the Japs had withdrawn hastily under persuasion of our shelling.

On 26 June the 37th Division made a junction with the airborne troops moving south from Aparri; the entire Cagayan Valley was under our control. The enemy, in remnant status, was fleeing into the Sierra Madra, apparently concerned only with survival.

The enemy's plan to engage us frontally along Highway 5 between Marana and Balasig and then to strike us in the right flank with an armored force appears to have been well conceived but poorly coordinated. The troops and weapons were at his disposal and well deployed for the action. Ample artillery was available to support the action. But the discovery by Cub observers of the armored force and its subsequent destruction before the opportunity came to employ it doomed the plan. Even so, the coordination of supporting artillery with the other forces was poor, as evidenced particularly by the making of the artillery effort only after the final defensive positions had been broken. It is not improbable that the artillery effort was made as scheduled, without the artillery's having knowledge of the destruction of either the armored force or the defensive positions on Highway 5. Failure of this plan reflects the Japs, common weaknesses of poor liaison, lack of communications, and inability to depart from a prearranged plan; it also reflects the advantages of our flexibility of plans, versatility of employment of artillery support, and highly developed technique of air observation.

Although the speed of our advance precluded a complete

count or extensive investigation of the enemy weapons encountered, the following number and types of artillery weapons employed by the enemy were confirmed as destroyed or captured during the division's advance:

2	Self-propelled 75-mm guns (a modified Model 90 75-mm gun mounted in a medium tank chassis)
1	U. S. self-propelled 75-mm gun mounted in U. S. half track
19	75-mm guns of various types
1	Model 90 75-mm gun (high velocity w/muzzle brake)
4	model 88 75-mm AA guns (one of these was emplaced for direct fire against ground targets)
12	10-cm howitzers (two were found abandoned in good condition)
3	15-cm howitzers (two additional 15-cm howitzer carriages were captured)
1	U. S. 37-mm AT gun
13	47-mm AT guns
5	70-mm howitzers
3	Field pieces of unknown caliber
1	AA gun of unknown caliber
65	Total field pieces
—	
18	Medium tanks w/47-mm guns
19	Light tanks w/37-mm guns
3	U. S. M-3 light tanks w/37-mm guns
1	Tankette
8	Flame thrower tanks
—	
49	Total tanks

Recovery of three 57-mm AT guns was reported south of Aritao, but could not be confirmed. A 103d Div Arty Order of 2 May, 1945, captured near Cabangan refers to a 12-cm howitzer platoon.

Between Santa Fe and Aritao tanks and field pieces were emplaced in ravines perpendicular to the road and well concealed although within a few hundred yards of the road at the most. Two self-propelled 75-mm guns were emplaced in caves for direct fire on the road; it is believed they were moved from the caves at night and used to shell our forward assembly areas. Use of tanks as stationary pillboxes may have been a measure forced upon the enemy by lack of gasoline.

Although there were caves and typically well dug-in enemy positions between Santa Fe and Aritao, the speed of our advance made it impossible for the enemy to construct any typically prepared positions beyond Aritao. Positions under construction south of Bambang were abandoned under pressure of our heavy artillery fire. A bitter fight was offered by the enemy from positions he had just begun to construct in Orioung Pass, but it was futile. Heavy earthen and timber pillboxes were encountered at such key points as river crossings and road junctions all along the route of advance, but these were unsupported by adjacent positions and in many instances had been abandoned prior to our arrival. Enemy artillery was found in hastily prepared positions within a few hundred yards of the road and sited for direct fire on the road.

The only heavy concentration of artillery fire within our rear areas, which occurred early in the morning of 24 June, was apparently part of a prearranged plan. Even here the enemy showed no tendency to understand the principles of massed fires, for although two batteries participated in the shelling it appears that only one battery fired at a time; and although the enemy had other artillery weapons in the general vicinity which, by more judicious selection of positions, could have massed their fire with the two batteries firing, these other pieces (in forward positions) had been committed in close support of the defenses on Highway 5 which had already been overrun.

Although the enemy cleverly concealed a sizable armored force in the San Antonio area, contemplating a counterattack against our flank at Ilagan, most of his tank strength was dissipated by piecemeal commitments in support of delaying actions.

In any consideration of the enemy's tactics in the Cagayan Valley operation, it must be constantly borne in mind that the Jap was operating under the severe handicaps of having been broken up into isolated groups in the early phases of the operation, and having lost practically all transport and communications facilities. Further, the Jap had no aircraft and very little gasoline for his tanks, although as always he seemed to have sufficient ammunition. These handicaps coupled with our rapid movement gave the enemy little opportunity to demonstrate his tactical or technical concepts.

The Jap, when encountered, employed his mortars and grenade launchers with his customary vigor and accuracy. Enemy mortars have consistently proved to be his most effective weapon; the countermortar problem has always been of major importance. Destruction of these mortars has been principally due to alert forward observers and aggressive infantry action. Location by sound, flash, or air observation is extremely difficult.

In summary, enemy defenses encountered, except for those south of Aritao and those in Orioung Pass, were hastily occupied positions which took advantage of the terrain, but were not prepared. Even the prepared positions south of Aritao and those under construction at Bambang and Orioung Pass were supplemented by hasty positions, such as that of a 75-mm gun near Yangiran which was merely placed in firing position at the edge of the road, where rising ground gave a good field of fire along the road and concealment was furnished by small trees and bushes.

The enemy had prepared an elaborate series of positions with pillboxes, wire, mines, and tunnels to defend Aparri and the Cagayan Valley from seaborne attack, but these positions, which extended in depth as far south as Tuguegarao, were facing north and were found abandoned when overrun by our troops moving from the south.

Aggressive and rapid movement of our artillery into forward positions to keep pace with the advance permitted its maximum effective use. Enemy positions defending Aritao were analyzed through photo interpretation and subjected to precision fires of heavy calibers; assembly areas and lines of communication as well as defensive positions were given heavy harassing and interdiction fires; and close supporting fire by two light battalions (reinforced by one medium battalion) was placed in the ravines immediately ahead of our advancing forward elements. So supported, the breakthrough pushed forward at such a pace that our artillery

was able to place heavy night fires on the enemy's elaborate defenses in the process of construction south of Bambang. The intensity of this fire forced the enemy to abandon his position in utter rout. The race for the Cagayan Valley was on. The Japs had abandoned pillboxes and dugouts, with the logs for their completion cut and lying nearby. At the river crossing south of Bambang destroyed positions, dead Japs, scattered and destroyed equipment, and a bypass bridge still intact testified to the accuracy and effectiveness of our preceding night's firing.

Balete Pass after the battle

Farther toward Bambang, where the highway passes through hills suited for a good defense, the Japs had fled their dugouts, leaving on the road a mine field in the process of construction and quantities of ammunition and other supplies in caves partially completed. Wherever the enemy attempted to halt our advance the same story was repeated: although the Jap held out bitterly for three days at Orioung Pass, and briefly at Naguilian, north of Ilagan, at Balasig, and at Tuguegarao, his attempts only resulted in his further disorganization and loss of equipment and personnel under the weight of crushing artillery fire.

The proportions of the disaster inflicted by our artillery fire are reflected in the following list of enemy equipment destroyed by artillery fire. This list includes only those items the destruction of which was confirmed:

524 vehicles of all types. Most of these were destroyed when artillery observers caught hundreds of enemy vehicles jammed on Highway 4 between Bagabag and Kiangan in the Jap's mad flight to escape into the mountains after our breakthrough at Aritao.

27 tanks, light and medium.

42 field pieces, 47-mm to 15-cm calibers.

Further testimony of the effectiveness of our artillery fire was given by prisoners taken during the advance. Following are several illustrative extracts from POW interrogations in reference to our artillery:

At Orioung Pass: "On the evening of 11 June, after receiving U. S. artillery fire, the 2nd platoon sustained 23 killed in action, thus leaving 10 men including 4 wounded."

"On arriving approximately 10 km. north of Ilagan tanks were subjected to U. S. artillery fire. 2 tanks were destroyed. . . . Communication and liaison between forward elements and units in the rear were non-existent to the extent that this unit was taken completely by surprise when first fired on by U. S. troops."

"The 179th IIB and the 175th IIB, elements of the 103d Div Arty, and a part of the 103d Div Hospital, had moved down to Orioung Pass and had taken part in the action there. The speed with which these units had moved to Orioung Pass had necessitated the use of roads and they had been forced to travel during daylight hours. As a result, a large number of troops were struck a heavy blow by U. S. air strikes and artillery. PW stated that most of the advance elements that had moved to that area had been annihilated."

"PW had heard that only one battery of the 103d Div Arty had been brought down to Orioung Pass. This battery had brought with it two old style 10-cm howitzers. These two pieces were reported to have been knocked out by accurate U. S. artillery fire."

Fundamentally the Cagayan Valley Operation was a pursuit action, although the problems of attacking a fortified position were encountered south of Aritao and in Orioung Pass. Assault of the organized positions was conducted with the usual heavy concentration of close support fire from artillery and tanks and of aerial bombardment by dive bombers. Destruction of these prepared defenses was accomplished in a minimum of time since photo interpreters and experienced observers were able to analyze the enemy's installations, and no time was wasted in placing upon these installations the tremendous weight of explosives which previous experience had demonstrated was required. Initially, one regiment in the attack had two battalions astride the highway. Artillery attached to the division permitted one battalion of light artillery to function in direct support of each of the infantry battalions while one medium battalion reinforced these direct support fires. Attached 155-mm guns, 8″ howitzers, 240-mm howitzers, and 90-mm AA guns were devoted to deeper general support missions, destroying fortifications, harassing assembly areas, and interdicting lines of communication. Heavily fortified strong points were pounded by fighter bombers directed from a forward OP by the air support officer and an artillery liaison officer.

As the operation progressed the problems of employing artillery in support of a pursuit action became paramount. Maintenance of continuous and undiminished artillery support

was facilitated by the presence of an attached light battalion. Aggressive reconnaissance and careful planning in selection of positions were requisite. It was not uncommon for the 155-mm gun battery to have each gun laid on a different one of the four points of the compass. The very narrow front and the speed of the advance resulted in flank security's being provided to a great extent by the artillery. All known and suspected enemy concentrations far to the flanks as well as on the route of advance were hit by our artillery fire, a procedure which later investigation proved to have been extremely sound even though at the time our troops did not enter these areas. Flank security was immeasurably improved by the employment of the artillery liaison planes to direct artillery fire in protection of our exposed lines of communication.

In addition to continuing the attack, the division was faced with the task of simultaneously securing as much as 150 miles of road, the sole line of communication. However, on only one occasion did the Nips succeed in inflicting any serious damage by attacking this road. Local security measures and individual unit security assume an unusual degree of importance in an operation of this nature, as evidenced by the fact that artillery units killed 259 and captured 213 Japs in local encounters. This includes no enemy killed by artillery fire.

Logistical problems were acute, too. Ammunition had to be hauled as much as 230 miles over a single dirt and gravel road which traversed mountains and by-passed numerous destroyed bridges. The solution of the supply problem was the result of superhuman effort on the part of engineers and truck drivers. Exposed almost constantly to interception by enemy infiltration parties, division truck trains and army trucking units delivered supplies to the most advanced units under all conditions. Cargo planes assisted materially in the delivery of supplies and evacuation of casualties, using captured airfields which the engineers speedily made serviceable.

Mapping was progressing simultaneously with operations; consequently the speed of our advance soon outstripped all efforts of the topographical units to keep troops supplied with maps. Aerial photography provided the solution to this problem. Initially, since high altitude coverage by K-17 camera was available, wide angle photos were reproduced by enlarging the 9″×9″ 1:60,000 prints to a 1:25,000 scale. Later, firing charts were constructed using 1:10,000 (K-18 camera) strips of the road and adjacent areas. A series of division artillery check points were selected from these photos and the liaison pilots were briefed regularly to insure that they would be able to readily identify any check points and adjust any battalion. Coordinates of check points were determined by division artillery by restitution, radial line plotting, or stripping corrections from adjusted data obtained by registration. Using two or more check points, targets could be readily restituted to the firing chart. Comparative elevations were determined by stereoscopic methods. Common position area control was established for all units by the Division Artillery Survey Section. Transfers of fire were accurate despite the difficulties of this situation, and the check points served as reference points facilitating the transmission of intelligence and operations information as well as the adjustment of fire. Distribution of photos was as wide as possible, first priority going to the air section. The check points were clearly marked and identified on the photos prior to distribution.

* * *

Several conclusions may be derived from this operation. The value of heavy artillery fire in disrupting enemy movement, preventing the organization of a defensive position, and utterly demoralizing the enemy, as well as smashing an organized defense has been demonstrated. The tremendous damage that can be inflicted during a pursuit action by rapidly advancing continuous artillery support, especially when all calibers are employed to full extent against any targets within range, has been evidenced by the extremely heavy toll taken of enemy transport and materiel.

SERVICE WITH

By Col. Hubert M. Cole. FA

The United States is completely involved in world affairs, including China. How well we are discharging the terrifying responsibiltes of world leadership is a matter of grave concern, right now, to our own people and to the rest of the world. The price of failure is staggering to contemplate. Colonel Cole makes no effort, in his chatty article, to appraise the grim realities of the difficult present circumstances in Cihna, the orderly solution of which is so essential to continued world peace. Colonel Cole's article, however, does stress throughout the vital importance of *tolerance and understanding* in dealing with the Chinese—or, we might add, in all dealings with all human beings. Day to day reports, both at home and from overseas, show clearly that many of us still have to learn this, the first lesson in human relationship.

—Editor

China is a popular subject these days and much is being written about the turbulent internal and external circumstances and relationships of this great country. Little has been written, however, from the point of view of Americans stationed there. Whether American officers and soldiers will remain for long in China cannot be known, but since the possibility thereof exists, an article on the peculiar conditions of such service is considered appropriate. Much of the material covered by this article, incidentally, was contained in a pamphlet furnished new arrivals in China. This pamphlet has not been made available in the United States.

I served in the "Y" Force of the Chinese Training and Combat Command from January 1943 to June 1944, not only with the Field Artillery Training Center in Yunnan Province, but also with the V Chinese Army Group, the major part of which was in the vicinity of Kunming.

During my period of service in China, most newly arrived Americans went through an initial period of considerable disillusionment and discouragement. This was due, I believe, to their having failed to appreciate the undeveloped character of the country, to a preconceived misunderstanding of the capabilities of the Chinese Army, as well as to a belated realization of the many difficulties and obstacles to be surmounted. After a time new arrivals usually realized that, whereas they could not accomplish nearly as much as they had hoped, they still could make important progress in training the Chinese; in other words, most old timers considered that their work was worth while.

Geographically, China is a vast area which including Manchuria is about one and one third times the size of the United States. Much of this area is mountainous and important parts are divided from each other by mountain ranges. Great portions of the southern provinces are covered by rice paddies. In general the climate is similar to that of the United States except for rainfall, which is generally less. The southern provinces, however, undergo the monsoon rains, but these are of a comparatively mild nature, and scarcely comparable to the extremely severe rainfall of India and Burma.

The scarcity of communication facilities in China is not generally realized. True, there are railroads, motor roads and motor vehicles, but all are most limited, by our standards. Most of the motor vehicles are in a very poor state of maintenance and repair; moreover, the Chinese invariably overload them. When a unit of Chinese troops moves, it moves by marching, except in the most unusual circumstances. When a Chinese officer must change station, he walks—unless he is fortunate enough to get a lift on a truck or a pony cart or can afford to hire a chair which is carried by coolies. Conscriptees for the Chinese Army are marched to their troop units, often over distances as great as a thousand miles. A loss of 30% or 40% due to desertions, sickness and death en route is expected. Only in unusual circumstances is American air transport made available to move Chinese troops.

The difficulty of the Chinese language is certainly a major obstacle to efficient dealing with the Chinese. The official dialect is Mandarin, which is spoken by the largest language group of Chinese people. Cantonese dialect is spoken by the second largest language group of people in China. There is as much difference between the Mandarin and Cantonese dialects as between French and Spanish. Both are difficult for a foreigner to learn not only because inflection is very important and usually determines the meaning but also because neither dialect lends itself well to accuracy of expression. Under the primitive conditions that have existed there has been little need for exact language, so it has not been developed. There are many other dialects in addition to Mandarin and Cantonese. In some cases people living in villages only ten or fifteen miles apart cannot understand each other because they speak different dialects. At the Field Artillery Training Center we had a great deal of difficulty with voice radio and telephone communication

A class in material at the Field Artillery Training Center.

THE CHINESE ARMY

because some of the student officers spoke different dialects.

The written Chinese language consists of around thirty thousand characters, each character having the meaning of a word, and these are the same for all dialects. It takes years for a scholar to learn all of them. Small wonder then that around 50% of Chinese officers and 95% of Chinese soldiers cannot read or write and about 90% or 95% of the civilian population is also illiterate. Of course it is practically impossible to manufacture a typewriter capable of printing the Chinese language. I have heard it said that there are such machines but I have never seen one.

The American officer or soldier serving with the Chinese is forced to rely on his interpreter. These are commissioned as officers in the Chinese Army and were secured from college students. Many of them are worthy young men and in many

Instruction in saddling. Note typical winter uniform on soldier holding mule.

instances have proven very loyal to the American officers to whom they were assigned. In giving instruction the American states a sentence or two and the interpreter translates. It is best to give the interpreter the text to study before a class or lecture. The American should look at and talk to the person to whom he is speaking and should not talk directly to the interpreter. Perhaps this seems a small point but you will be more effective if you follow this advice.

Politically China is not a well integrated nation. The Central Government (Kuomintang) has undoubtedly made great progress in unifying the nation, but there are important areas that do not recognize the authority of this government, of which the Communist areas are, of course, the largest and most important. The current bitter struggle between the Kuomintang and the Communists is the culmination of many deep-seated pressures, both internally and externally. The outcome of this struggle—of such vital interest to the United States that the President has seen fit to utilize the good

A group of visiting Chinese general officers.

offices and broad experience of general of the Army George Marshall as our Ambassador in China—cannot now be foretold. All hope that prolonged civil war may be averted. In this connection, however, it is perhaps significant to observe that the patriotism of most Chinese is directed more towards the family than towards the national, or other, Government. The family is closely united and includes most relatives and is a larger group than in our country.

Of interest, too, is the fact that American inquiries among peasants living near Kunming revealed that many of them had never heard of Chiang Kai-shek, and few had any idea of who Americans were. However, they all knew who the governor of Yunnan Province was—they paid their taxes to him!

Chinese food served at banquets is carefully prepared and very delicious indeed. (In view of the prevalence of dysentery the usual precautions must be observed—drink only boiled water and do not eat uncooked food unless it is something that can be peeled.) You may need to acquire a taste for some dishes, and you should learn to use chopsticks well. No dairy products are used by the Chinese and they have no refrigeration, so all meats must be eaten promptly after being slaughtered. Although Chinese food served at official dinners is costly and is most palatable, do not think that the Chinese troops live well. In the fall of 1943, the official ration of the Chinese soldier was increased to the following: one pound of meat per month; five pounds of beans per month; vegetables to the value of 100 Chinese dollars per month; and 24 ounces of rice per day. Actually they received no meat at all—the substitute being an equivalent amount of bean curd, a protein. They have two meals per day, one at about 0900 and one at about 1630.

The organization of the Chinese Army follows the same echelons of command as our own except that the army corps is omitted. The chain of command is from division to army. The army corresponds to our corps and the army group to our army. The Chinese units were usually greatly understrength. A division was supposed to be 10,000 strong but I saw few with more than 5,000 officers and men. One battalion of field artillery is all that is normally provided

for each army of three divisions, although the Chinese units that were trained and equipped in India did have one battalion in each division. The field artillery was equipped with German, Russian, French, and American material. By June 1944 six battalions had been re-equipped with our 75-mm pack howitzers.

The infantry weapons consist of the Chinese-made *Generalissimo* rifle (modeled on the German military rifle), the Chinese-made light and heavy machine guns, some 60-mm mortars supplied by the United States, a certain number of Bren guns and tommy guns, as well as the Chinese-made 82-mm mortar. They also had some units equipped with a

Instruction in the use of fire control instruments.

powerful but inaccurate 150-mm mortar. The Chinese-made weapons were serviceable, but the Generalissimo rifle was made of poor steel and inaccurate after a few rounds.

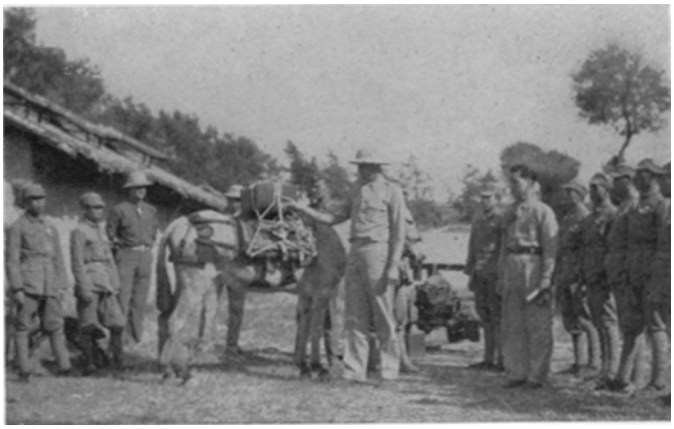
One serious defect of the Chinese method of exercising command is that the commander does not delegate authority or use his staff. Control is highly centralized. If the commander is absent the next senior will seldom take any action except on the most trivial matters. In the V Army, which consisted of three divisions and certain non-divisional units, no company or battery commander could be appointed or relieved without the personal approval of the Army Commander. It was explained to me once that this centralization is necessary so that the commander can be sure that only officers who will be loyal to him will be appointed to important positions. Also that authority is not delegated for fear that the acting commander would attempt to displace the regular commander. Needless to say these arrangements slow down the transaction of business.

There is no fundamental reason why Americans and Chinese should not get along well together. Actually, they have important qualities in common. First among these is a sense of humor, which certainly makes for mutual respect and regard. Moreover, Americans and Chinese both treat their womenfolk with respect and consideration. We must realize, on the other hand, that the bulk of the Chinese people have a strong prejudice against foreigners. Now it is true that many of the best educated and especially English-speaking Chinese welcomed the American Army and were most hospitable, and it may seem rather ungrateful to say that the Chinese people are anti-foreign, vet among great numbers this feeling exists. This goes back to the days of the treaty ports, when the Chinese were treated shabbily by foreigners, many of whom were uncouth representatives of their respective countries. Fortunately for us, Americans are more highly regarded than other foreigners in China.

Another prejudice of the bulk of the Chinese people is that against military personnel. The soldier has been the lowest member of the social scale under the ethical system established by Confucius. The Chinese have a proverb that runs, "Good wood is not used for the fire; good iron is not used for nails; and good men are not used for soldiers." Also the peasants have been preyed on by the soldiers of the war lords for generations. The present leaders of China are trying to overcome this prejudice. Although there are exceptions (notable among them being the group of interpreters who were drafted into the Army from among college students) in general the Chinese do not go into military service even in war-time if they have any money, or influence, or position in the community.

The Chinese do not like direct dealing as we usually do. They do not put "their cards on the table," but prefer an indirect approach to their objective. They have found that in dealing with foreigners they can often get their way by simply waiting, as the foreigner will get impatient and give way in order to get the matter settled.

Time means little in China, and the people are seldom in a hurry. This trait is exasperating to us sometimes but it is



The author conducts a class in packing. The hatless individual is the interpreter.

practically impossible to do anything about it. If you get impatient and blow up, you can be sure that you will get absolutely nowhere.

The Chinese are rather formal in their relationships and lay a great deal of stress on good manners, and preserving the "face" of the other person. For example, no Chinese would think of striking another in a quarrel, as that would put him in the wrong and cause him to lose face. Instead he will probably appeal to bystanders or passersby to hear the story and decide the matter. They usually think that Americans are crude and our rough and ready ways are often shocking to them. The matter of drinking at dinner parties is attended with considerable formality. You can announce that you don't drink but if you do drink you will be asked either to "guam pei" (dry glass) at which you

empty your glass or to "shui bien" (as you please), when the amount you drink is at your discretion. It is a common practice to gang up on Americans in order to get them to drink too much, but many times the Americans will counterattack and rout the Chinese. There is no drinking at any Chinese dinner until after rice, the last dish, is served.

The matter of face is important in China as elsewhere in the Orient. To us face means prestige or self-respect which is important to ourselves. However, if we are humiliated or lose perstige we may feel badly about it, but a Chinese will take the situation much more seriously than we would. He may commit suicide or in any event will probably give up and quit the job and become useless. I knew a Brigadier General who lost face by being reduced to Colonel (unjustly, I thought) by the Army Group Commander. He had been a good officer but became absolutely worthless after this happened and he spent most of his time drinking.

Their idea of responsibility for injured people is difficult for us to grasp. If a passerby gives aid to a victim of a motor accident he becomes responsible for the person, and is expected to pay for his hospitalization. Therefore nobody gives such people any assistance, and they may lie by the side of the street until they die, even in a crowded city. Obviously, an American involved in any motor accident should give the same assistance to the victims as he would at home.

Another tendency that the Chinese have which is hard for us to understand is that of laughing when they have done something wrong or even when someone is injured. After a motor accident for instance, the Chinese driver even if at fault will probably laugh heartily. This naturally enrages Americans, but I have had it explained to me that they laugh in order to cover up their own embarrassment.

The Chinese do not know the meaning of privacy. They have been brought up under unbelievably crowded conditions—result, one man's business is everybody's business. Every move a foreigner makes, if he is living among the Chinese, will be looked upon with curiosity, especially if they have seen few foreigners before. If you enter a community, more than likely your vehicle will be immediately surrounded by a crowd of curious people, who will stay with you while you eat, and will not leave you alone, even in order to give you a chance to do those things which we do not do in public in America. Even your personal papers, clothing and equipment are considered fit subjects for observation, handling and comment. The educated people know better than to be so inconsiderate, but the bulk of the population do not realize that they are being objectionable. There is little that the foreigner can do except to endure such situations.

The Chinese are probably the most talkative and long-winded people in the world. They like to make and to listen to speeches, and are especially fond of long lectures as a method of instruction. Of course this was not in accord with our ideas and we had a hard time convincing them that it was not good wartime pedagogy!

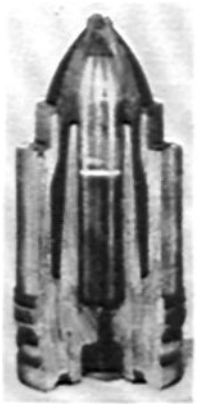
The Chinese are a proud and sensitive people. If while dealing with them you should get mad, swear a bit, and generally blow up you will make no progress whatsover. They will probably pay no attention to you under such conditions. They will certainly not accommodate you. The best method of operation is to be as patient as they are, and to show them that they cannot outwait you. This will be exasperating but probably quicker in the long run. And finally never use the word "Chinaman" or such expressions as "Chinks," or "Slant Eyes." We do not think of the word "Englishman" or "Frenchman" as being a term which would insult anybody but "Chinaman" is so considered. The reason for this goes back to the days of the treaty ports when this word was used in a derogatory sense. The proper term for you to use is "Chinese."

BEAT GERMANS AT OWN GAME

Although the Germans spent incredibly large sums of money, as far back as 1936, developing armor-piercing projectiles with carbide cores, apparently they never got around to producing one as simple and effective as the U. S. Army's high velocity, carbide-cored projectile which destroyed so many of their thick-skinned, heavy Tiger tanks.

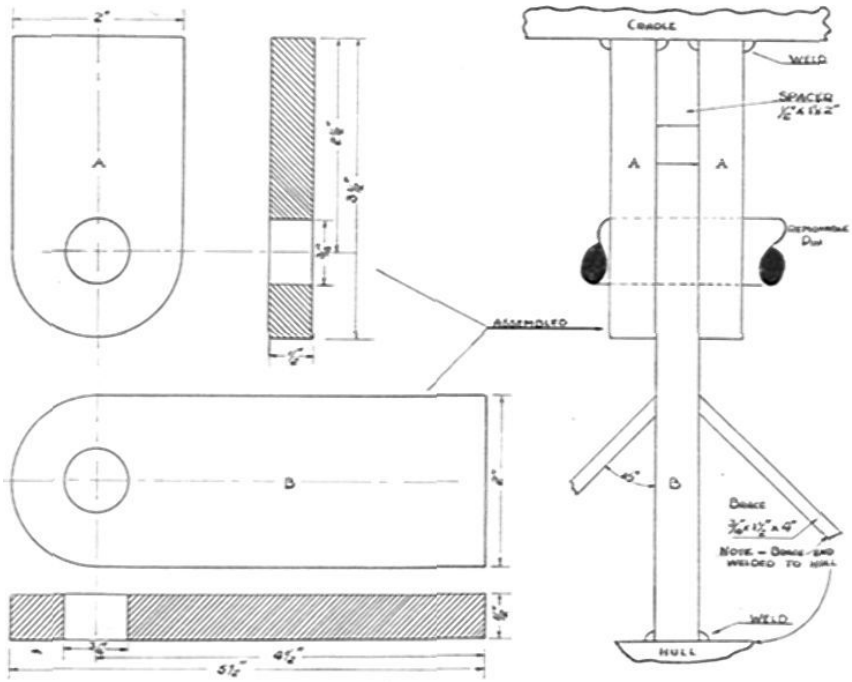
German projectiles with carbide cores typical of production in the later months of the war were brought to this country after a 3½-month investigation of German wartime industrial development by a carbide tool specialist of the U. S. Foreign Economic Administration's Technical Industrial Intelligence Commission.

A cut-away section of the German projectile (right) reveals that it is composed of many parts, each carefully machined and assembled with many fine screw threads. Even plastics were used in the German projectile. Workmanship was excellent, but many parts were highly finished which did not need to be finished at all. In contrast, the American projectile (left) was extremely simple in design and easy to produce.

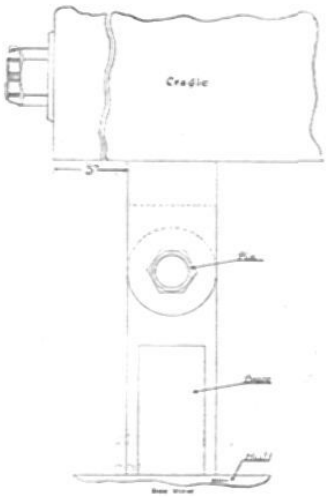


Traveling Lock For 105-MM Howitzer, Motor Carriage, M-7

By Capt.
S. J. Krekeler. FA



Front view



Side view

The traveling lock ordinarily issued with the 105-mm Howitzer, Motor Carriage, M-7, has proven somewhat cumbersome; and there is no place provided for carrying it when not in use, so as a result it is always lost when it is needed. A traveling lock of some sort is very necessary to keep the elevating and traversing arcs from taking all of the shock caused by traveling over rough roads. It must be simple, however, and permanently attached to the carriage so that no part of it can become lost, so that it can be used when it becomes necessary.

T/5 Robert B. Gottmer, 91st Armd FA Bn, has devised a traveling lock that meets these requirements and has been used by this organization for the past six months and has been found very satisfactory. It consists of two pieces of strap iron ½″ thick, 3½″ long, and 2″ wide, with a ¾″ hold drilled as indicated in drawing marked "A." These are welded 5″ from the front end of the cradle, side by side and ½″ apart, thus making a clevis. Another piece of strap iron ½″ thick, 5½″ long, and 2″ wide, with a ¾″ hole drilled as indicated at "B" in drawing, is welded on the hull of the M-7 just above the final drive at a point underneath the clevis when the tube is traversed to the right and in line with the foremost part of right front driving sprocket. This is the traveling position for the tube and gives the driver full view of the road. "B" must be braced by two pieces of strap iron 3/16″ thick, 1½″ wide, and 4″ long—one on each side—making a 45° angle with it and welded both to the hull of the M-7 and to "B." This is a safety measure which insures stability to either side. A ¾″ removable pin 3″ long is required to hold these two units together when the gun is in traveling position. This pin should be turned out on a lathe so as to insure a snug fit, and should be permanently attached to the M-7 by means of a chain to insure against its becoming lost.

In welding the two pieces marked "A" to the cradle a spacer ½″ × 1″ × 2″ is welded between the two to insure that they will remain ½″ apart during the welding.

PERIMETERS in PARAGRAPHS

(BASED UPON LATEST INFORMATION AVAILABLE AT DATE OF WRITING. AND SUBJECT TO CORRECTION AS MORE COMPLETE REPORTS ARE RECEIVED.

By Col. Conrad H. Lanza

IRAN (19 Nov to 18 Dec 45)

The northwest province of Azerbaijan has become a new theater of military operations, thus far on a small scale.

Azerbaijan is a high mountainous country with extensive plains between ranges. The population numbers approximately 2,000,000, who speak a different language from those elsewhere in the remainder of Iran and who have different customs and religion. It is the most productive province of Iran, raising large crops for the Tehran (or Teheran) area and for export to Russia. Numerous minerals are found in the mountains, and the geologic structure indicates oil deposits. However, no oil has yet been produced.

In the summer of 1941 Russia and Great Britain notified Iran that they proposed to occupy the country, in order to forestall a German attempt to do so. Iran resisted. Being small and inefficient, the Iranian army was rapidly overcome, the ruling Shah was deposed, and a new Shah favorable to the Allies was installed. The new Shah thereupon made a treaty authorizing the Allies to remain in Iran until six months after the expiration of the war. Iran has claimed that this meant the war with Germany—the only one going on at the time the treaty was signed. Subsequent to the treaty, the Allies claimed it meant any war. Under this interpretation Allied evacuation of Iran should be completed by 2 March 46. The United States did not take part in the original occupation of Iran and has no treaty authorizing American troops to be in that country. At the time of the original invasion the State Department officially announced that it considered the invasion as justified.

After the United States entered the war, it was decided to open a line of supply across Iran to the Caspian Sea for the purpose of forwarding Lease-Lend goods to Russia. American troops then entered Iran—the assumption being that since we were an Ally of Great Britain and Russia, the authority for troops of those countries to enter the country extended automatically to the United States. American enterprise reconstructed the railroad and a motor road, and a vast quantity of goods was forwarded to Russia. In the Allied occupation, Russia occupied the northern area including Azerbaijan. The British and Americans jointly occupied central and south Iran, which is largely desert.

After World War I, the British developed oil in south Iran, and somewhat later American companies developed other oil properties about the Persian Gulf adjacent to Iran. Both British and American developments are now in production. In 1944, and again in 1945, Russia requested concessions to develop oil in Azerbaijan. Upon recommendation of the American and British authorities, Iran declined on the ground that no further concessions of Iranian resources would hereafter be granted to any foreign nation.

In Nov 45 a "revolt" started in Azerbaijan with the announced mission of seeking autonomy. Although the "rebels" proceeded to organize a government, they have not demanded independence from Iran. Iran had garrisons at several points, and attempted to send reinforcements. Russian troops prevented this and confined the garrisons to their quarters. They were then surrounded by superior Azerbaijan "rebels" and were induced to surrender. They were permitted to return to Tehran.

The Russian explanation is that their troops are occupying Azerbaijan under the 1941 treaty, and will continue to do so until 2 March, 1946. They consider themselves responsible for maintaining law and order. To have allowed Iranian troops to attack the "rebels" would have led to disturbances which they could not permit. Why the "rebels" were allowed to circulate but Iran troops forbidden to do so has not been explained.

Azerbaijan is now organizing an autonomous government.

In view of this situation, the United States and Great Britain proposed to Russia that all three nations withdraw their troops not later than 1 Jan 46. (The United States announced that they would do this anyway, despite the fact that this hasty action might require abandoning large quantities of stores for lack of time to remove them.) Had this proposition been accepted the Russians would not have received their demanded oil concessions, but the British would have retained theirs in south Iran. The Russians declined to withdraw before 2 March 46.

The general impression is that Azerbaijan after announcing its' autonomy will grant Russia the desired oil concessions,

and may even request Russian troops to remain in their country.

On the southwest Azerbaijan borders Kurdistan. The Kurds are a fanatical Mohammedan people. Prior to World War I they were armed by the Turks, with the purpose of exterminating Armenians, which task they strove with zeal to accomplish. Armenians reciprocated, thus maintaining the military spirit in a turbulent area. The Kurds also border Iraq, and are not very far from the British oil fields in that country.

Should Azerbaijan fall permanently under Russian domination, Russia would be in direct contact with the Kurds. The latter can be expected to accept Russian weapons and ammunition and might start to attack British rather than Armenians. This situation would call for garrisons in Iraq, which the British wish to avoid.

In the past century Russia repeatedly attacked Azerbaijan, and several times nibbled off parts of its territory. These sections of land have been organized into a Soviet, under the same name of Azerbaijan, which is immediately north of and adjacent to the Iranian Azerbaijan. It is easily realized that Russian Azerbaijan might desire that all of the country and people of that name be under one flag. Presumably, the flag would be that of the Soviet Union.

THE SOUTHEAST ASIA COMMAND (19 Nov to 18 Dec 45)

THE GENERAL SITUATION

The Southeast Asia Command CP is now functioning at Singapore. Admiral Lord Louis Mountbatten continues as its commander.

Major military operations have occurred only in Java, although minor operations have taken place in Sumatra and Cochin-China.

The evacuation of Japanese troops from Malaya has made good progress. The Japanese have not been taken back to Japan, but have been concentrated on what had been uninhabited islands in the Riouw Archipelago. This group of islands has been part of the Netherland Indies, but lies directly opposite Singapore and within 18 miles of that city.

The present mission of the SEAC is to concentrate on the campaign in Java, and to complete it before undertaking new operations. Elsewhere efforts are being made to satisfy native aspirations for freedom by offering a modified independence under European guidance, without resorting to war. So far, the natives have shown no desire to accept a modified independence. They continue to demand complete independence. Except in Java, there has been little fighting, since the natives have no military forces capable of undertaking an offensive, and the British have refrained from attacking.

The British have complete control of the air and of the sea. They are able to move troops anywhere and at any time. The Dutch and French forces cooperating with the British are dependent upon the latter for sea and air protection and support. The natives have neither naval nor air forces, and are incapable of moving forces from one sector, or from one island, to another.

The natives maintain some liaison among themselves by radio and are kept fairly well advised as to the situation in all active theaters. By radio they have to some extent agreed as to their minimum demands. It appears that Burma as well as India communicates with Java and exchanges information and advice.

In general, time favors the British. It has made possible the arrival of important Dutch and French forces, and of additional British reinforcements. The natives have neither the means of receiving war supplies from the outside nor the facilities for manufacturing them. Consequently they become weaker as time passes and weapons and ammunition are expended. This is partly offset by improved training and organization which is being actively prosecuted.

BURMA

The disarming of Japanese troops is reported as completed, and the prisoners of war are to be sent to the Riouw Archipelago.

The people of Burma have not accepted the British offer of Dominion status. However, the British occupation forces are so strong that no uprising has been possible.

It is unofficially but reliably reported that the Burma Road will not be continued. Apparently it will be allowed to revert to jungle. From a commercial point of view, this road never was economically sound. It was reopened during the later stage of the recent war, but never carried any important quantity of supplies into China.

From a military point of view, the Burma Road enables China to invade Burma. This is exactly what happened during the winter of 1941-42, although the Chinese came as Allies and not as enemies. Thereafter the Chinese used the road until the end of the war to supply their troops in Burma.

If the Burma Road is continued, it will be necessary for the British to provide for possible covering forces to oppose a Chinese invasion. On the other hand if the road is allowed to become unusable, such covering forces are unnecessary. In this the Burmese agree with the British. The Burmese dislike the Chinese more than they do the British; if foreign troops must stay in their land they particularly do not want Chinese.

JAVA

On 19 November, British headquarters were in Batavia, with Lieutenant General Sir Philip Christison in command. The Dutch headquarters were in the same city, under an acting Governor General. More surprising, the native Javanese Government also had its capital in Batavia, where President Soekanro and his Cabinet regularly functioned. They exercised command through native governors throughout Java.

The British maintain close liaison with the Javanese, and act as intermediary for them in their relations with the Dutch. No agreement has been found possible. Although willing to allow a considerable amount of local independence, the Dutch will not consider any settlement that does not envisage the Javanese remaining as part of the Dutch kingdom. For their part, the Javanese refuse to discuss anything unless their independence is acknowledged. They are willing to preserve all Dutch property rights, and to grant very favorable trade conditions. As neither side has yielded on its basic demands, negotiations are at a standstill.

The British held Batavia, Bandoeng, Semarang and Soerabaja. Bandoeng was supplied by convoys, which traveled through hostile territory and were subjected to frequent attacks. The other points were on the sea and were easily supplied by water.

Japanese troops, estimated at 50,000 men, were scattered in garrisons in the interior. They were well armed and were able to take care of themselves. They were ready to surrender, but since there was no transportation to take them back to Japan and they had no desire to be disarmed and interned in the Riouw Archipelago, they preferred to stay where they were.

The Javanese Government has a considerable number of troops subject to their orders. They have expressed a wish not to fight the British, but only the Dutch. The British have prevented Dutch troops from circulating outside of Batavia. Consequently collisions between Javanese and Dutch have been minor. Other Javanese troops have been fighting the British. The Java Government claims this is out of order, and disclaims responsibility. The truth of these claims cannot be determined.

The Java troops are showing improved discipline and training. They have no air force, but they have developed an antiaircraft service whose batteries (equipped with Japanese materiel) have shown an unexpected efficiency. Since the Japanese had an AAC school in Java, it is considered likely that some Japanese, classed as "deserters," have been training the Javanese. The Javanese have an arsenal at Jogjakarta, which is believed capable of manufacturing infantry ammunition. The scant information available indicates that the buildings are widely separated and camouflaged so as to avoid losses from bombing. Thus far, however, it has not been bombed. This arsenal was originally Dutch, and was taken over by the Japanese. It appears to have been turned over intact to the Javanese about 1 September 45; the Japanese explained at the time that there were no Allied troops available to whom they could otherwise have surrendered. It is possible that this arsenal may be equipped for other than infantry supply.

Jogjakarta is a Javanese center of resistance. It has a good radio station. At the beginningof the period—19 November—this station broadcast that the British would no longer be recognized as being in Java solely as Allied instrumentalities to disarm and evacuate the Japanese. Practicaly nothing had been done in that line, and little seemed to be even contemplated. The true reason for the British invasion appeared to be to prepare the way for a Dutch invasion to reconquer Java. The hatred of the Javanese for the Dutch has become intense. Moreover, their hatred is spreading not only to the British for alleged assistance to the Dutch but also, in lesser degree, to the United States for failure to take a decided stand for freedom.

The Javanese leaders are not military men. As far as known, they have no competent military leaders. Of the Cabinet, the Prime Minister Sutan Sjahir and four of the ministers have graduated in law at universities in Holland. Several have Ph.D. degrees. One other minister is a graduated in medicine from a Dutch university, one in engineering and one in economics and finance. The Prime Minister had been in confinement for nine years prior to the Japanese occupation for activities in favor of independence. He had spent this period in New Guinea, but had managed to write numerous articles in favor of independence. He had generally kept alive the spirit of independence, and was restored to liberty by the Japanese.

On 19 November, Soerabaja was the main center of fighting. The British were engaged in occupying the entire city. Tactically, the Javanese would first give way and then infiltrate back in rear. About 20,000 Javanese were regular troops, the balance (another 20,000 approximately) being hastily raised levies. They had a few tanks and a little artillery. The British had the 5th India Division supported by a naval force which delivered artillery fires as requested by the ground troops and an air force which bombed as directed. The British made slow but steady progress, with materially fewer casualties received than inflicted. Some Japanese troops were in line aiding the British, and were supplied with ammunition by RAF planes flying it in from the Japanese ordnance depot at Batavia.

Next day the fighting spread to Semarang, where a predawn attack by the Javanese against the 23d India Division drove a wedge through the heart of the city, splitting the British into north and south detachments. This was closed during the day after an air strike using 500-lb. bombs. Desultory fighting occurred throughout Batavia and Bandoeng. In Batavia the Javanese effort was directed primarily against Dutch troops, which were withdrawn from line and replaced by British. The British announced that the Dutch reinforcements then en route had been stopped at Singapore, in order to allow time for a peaceful settlement. Japanese troops were brought into line at Semarang to aid the hard-pressed British. The Japs attacked on the morning of the 22nd and cleared out some suburbs.

At Bandoeng there were about 60,000 Dutch and other Europeans, including half breeds known as Eurasians. The Javanese classed them all as Dutch and enemies. The normal European population was 24,000; the remaining 36,000 were refugees for which there were neither quarters nor food. The British garrison was for the purpose of rescuing these abandoned people. The Javanese refused to sell them supplies. They frequently kidnapped, and occasionally murdered, inmates of concentration camps. Japanese troops aided in guarding the camps. By British orders, the Japs were authorized to shoot on sight any native found with arms. In practice the Japs did not do so, but placed them in confinement.

A similar situation on a small scale occurred at Magelang, 25 miles from Semarang, where the Javanese attacked a concentration camp on the 23d, causing the death of 12 refugees, most of whom were women. On this day, the fighting at Soerabaja continued. Using American Sherman tanks, the British made considerable gains at slight loss to themselves. At the end of the day the British estimated that two-thirds of the city was in their possession. The advance was at the fair grounds, where it had been expected a Japanese garrison would be found. However, there was no such garrison; whether the Japs had been killed by the Javanese or had gone off with them could not be ascertained.

On the 24th, the battle at Soerabaja continued, with the British making further gains. All of the city except Darmo, a suburb at the south end, was now within the British lines. At Semarang, the Japanese continued their attack in the east sector, while India troops looked after the west side. The Japs operated under their own Tenth Army, commanded by General Mabushi.

On the 25th, the British Air Force shot up the Javanese broadcast stations at Jogiakarta and Soerakarta. These stations had been very active and very anti-British. The airmen reported 22 bits with rockets which they claimed had destroyed the stations.

On the 26th, the Javanese were back again in the center of Semarang, and were only driven out after an artillery preparation fired by the Navy and an air strike. Much minor fighting continued in Batavia, with the Javanese capturing (kidnapping) numerous Europeans. A British convoy with supplies for Bandoeng fought its way in through road Hocks set up by the Javanese on lines of approach. It took seven hours' fighting next day to break through another road block to the adjacent airport, which it was desired to use to evacuate refugees. As the British had accomplished their immediate mission of occupying Soerabaia, the 49th Brigade of the 5th India Division was withdrawn from line and sent to Semarang, with a view to relieving the Japanese troops. Semarang continued to be an active center of fighting. The British naval forces supported the ground forces.

On the 28th, the Javanese closed in around Bandoeng and reestablished their road blocks, thereby preventing the departure of the convoy which had arrived two days earlier.

On the 29th, Javanese light artillery shelled refugee camps at Ambarawa, near Semarang, causing a number of casualties. Next day the RAF attacked the supposed Javanese artillery locations with rocket fire. On the 30th, with the aid of the air force, the British convoy at Bandoeng commenced operations to get back to Batavia. Some progress was made.

The month of December opened with the Javanese continuing their siege of the refugee camps at Ambarawa and Bandoeng and with the British seeking to evacuate the refugees. On the 1st the Javanese downed a British plane near Bandoeng. The wreck was recovered by Japanese troops, but the survivors had been massacred.

On the 3d, the British area commander arrived at the Bandoeng airport. He found the road to town blocked by the enemy and was unable to reach it. On the same day the Javanese captured the administrative CP at Bandoeng and a hospital from which the patients had been evacuated. At Semerang, the British commenced to evacuate refugees from the Ambarawa camp but the convoy was immediately attacked, in spite of naval and air cover.

On the 4th, the British flew the 4th Mahratta Infantry (combat strength about 900) in to the Bandoeng airport. The total British strength in this area appears to have been about a division. A severe fight resulted. The tropical vegetation and the large number of villages and houses facilitated Javanese infiltration. They used gasoline grenades with considerable effect in attacking defended buildings. At Semarang the effort to evacuate refugees was suspended.

The Dutch reported that each of their eight battalions at Singapore had combat strength of 750, were being trained in jungle fighting, and would be brought to Java towards the end of January.

The fighting now diminished. The British were satisfied that further progress was unlikely unless large reinforcements were supplied by the Southeast Asia Command. A conference was held at Singapore to discuss the advisability of doing this. It was decided to furnish additional divisions for duty in Java.

Although it was supposed to have been destroyed by the RAF, on 7 December the Javanese artillery was again shelling the Ambarawa camp, which continued under close siege, and 140 refugees were captured. At Bandoeng, it was impracticable to keep the road between the city and the airport open, and the troops within the city were under constant attack.

On 8 December, the British commander at Batavia, Lieutenant General Sir Philip Christison, notified the Javanese Government that the British proposed to take determined action to establish order in Java. The purpose was to

"restore and maintain law and order . . . in order to allow constitutional reform and a measure of self-government within the framework of the Netherlands Kingdom."

The British spokesman stated that the Allied viewpoint was that the Javanese Government lacked ability, power and personnel to tackle the grave economic conditions. The British 6th Airborne Division was ordered from Malaya to Java. This is the same division which had taken a distinguished part in the Holland air attack in September, 1944.

At a press conference on 11 December, the Javanese Prime Minister replied to the British announcement of the 8th, stating that if the British went ahead with a war against Java, they would be resisted to the utmost. He claimed that there was no need for the British to be in Java, as the Javanese could disarm the Japanese without outside assistance. The British refused to accept this statement, pointing out that 50,000 Japanese troops, at various garrisons in the interior of Java, had been unable to comply with an order to march to seaports for surrender and internment since the Javanese had road blocks in all directions. It seems probable that the Japs preferred to remain where they were (in good quarters and well supplied)

rather than be interned on the barren Riouw Islands. Whatever the reason, the Japs remain.

Operations now diminished to minor patrol activities. The British awaited the promised new troops; meanwhile the Javanese reorganized. From air reconnaissances, it was ascertained that numerous road blocks were being established in all directions with a view to resisting a British advance.

On 15 December, the Javanese Government issued a new statement that information had been received that the Dutch had raised 27 battalions of troops (about 21,000 men) for use in the reconquest of Java. They predicted severe fighting and a determination to resist.

On the 16th, the British commenced to destroy villages as reprisal for attacks on convoys, patrols and other detachments. Two villages within 30 miles of Batavia were razed. On this day, the British reported that the evacuation of refugees from the Semarang area, by sea from that port, had been completed. The troops were thereupon withdrawn from Ambarawa and other places to the vicinity of Semarang.

On 17 December, the British established a concentration camp on an island off Batavia for undesirable natives. The island is ¼ mile square, and easily guarded.

As this account closes on the 18th, only minor fighting was occurring. The British 6th Airborne Division and the 26th India Division had commenced to arrive. On their side the Javanese were engaged in preparing to meet the expected British and Dutch offensive.

SUMATRA

This great island has been generally quiet. It is being ruled by a native Governor (Tenku Hassan) who is a native nobleman from Atchin at the north end of the island. Atchin was conquered by the Dutch early in this century and has never become reconciled to Dutch rule. Hassan is well educated and moderate in his views. He is desirous of avoiding a war. He is opposed by an Abdul Karim, who is in favor of vigorous action against the efforts of white races to dominate the East Indies. Karim appears to be gaining ground.

The British have garrisons at several ports, ostensibly to disarm the Japanese. However, the Japanese haven't been disarmed. For the moment fighting has been limited to minor patrol actions in the Padang and Medan sectors.

The natives of Sumatra have a reputation of being materially more warlike than the Javanese. They are in liaison with Java, whose leaders have distributed much propaganda which has been favorably received.

On 10 December, the Japanese commander at Medan reported that hostile forces were appearing in that area and that skirmishing had started. On the same day the Japanese commander at Teloekbetoeng, which is the main port at the south end of Sumatra, reported everything quiet in his area. There were 6,000 Japanese troops at that town, which had been a main Japanese depot. Large quantities of stores were still on hand.

THAILAND

Thailand, or Siam, has British troops in possession of its capital. The disarming of the Japanese troops is reported as practically completed, but not their evacuation. The British are seeking to impose a peace treaty on Thailand, to the conditions of which Thailand has so far refused to agree.

The British demand that Thailand furnish annually for a term of years 1,500,000 tons of rice as *restitution* for having gone to war against the Allies. Thailand claims that its participation in the war was nominal only, and solely because Japan had seized the country. Their declaration of war was revoked immediately after Japanese pressure was released in August 1945. The British claim that Thailand really was at war, and that a status of war can not be unilaterally revoked upon losing it; otherwise all defeated nations could thereby escape paying the penalty.

Thailand further declares that the amount of rice demanded exceeds all possibilities. The United States has intervened as a friend. It has not succeeded in getting the British to withdraw their demand for restitution, although no other Ally has asked for any. Present American action appears to be to induce the British to materially scale down the quantity of rice desired.

There is a deficiency of rice in India. That condition is normal, and the deficiency used to be made up by importations from Burma. Due to war devastation, the Burma supply is far below normal. It is therefore necessary to seek rice elsewhere. The British point of view is that Thailand can furnish it, and should do so at its expense as punishment for entering the war.

INDOCHINA

Strong French reinforcements having arrived in Cochin China, the reconquest of that colony has made progress in two directions. From the center at Saigon, which is now solidly held by British and French troops, the line has been pushed southwest to Vinlong and Travinh against only minor resistance. To the northeast French troops have crossed into Annam and have reached Banmethout. On account of the censorship, there is no information as to the fighting.

The British are preparing to withdraw in order to use their troops elsewhere. The Japanese have been disarmed in the Saigon-Cholon area, and their evacuation has commenced. The Japanese have not been disarmed elsewhere. On the contrary they have been authorized and directed to maintain law and order in the interior pending arrival of the French.

In Tonkin fighting is in progress between Chinese troops who have occupied that colony and the native Viet Minh organization, which heads the independence movement. The Viet Minh claims that there is no need of a Chinese occupation, and that the Chinese are really desirous of annexing Tonkin to China. The nature of the fighting is unknown.

CHINA (including Manchukuo and Mongolia), 19 Nov to 18 Dec 45

GENERAL SITUATION

The differences between the Nationalist and Communist Parties, known respectively as the *Kuomintang* and the *Kungchantang*, continue to be the dominant military factor.

According to its own returns, the Kuomintang has 95 armies in the field. A Chinese "army" corresponds roughly to an American corps and usually has 2 divisions. The combat strength of divisions is between 10,000 and 12,000 men. In all there seem to be approximately 190 divisions, with a total strength of something like 2,000,000 men. Of these divisions, 39 are equipped with American materiel, including artillery and motor transportation. The aggregate strength of all Kuomintang troops is claimed to exceed 3,000,000. Presumably, the difference between the two figures covers service and supply troops.

According to the latest available Japanese returns (15 October), there were still 1,100,000 Japanese troops in China. The Japanese GHQ as Nanking continues to function, with General Okumura as C-in-C. Adjacent to his CP is the Chinese GHQ, where General Ho Ying-chin is C-in-C. General Okumura is accepting orders from General Ho. At present orders are for the Japanese to continue to guard critical areas and lines of communication, particularly those in areas near Communist forces whom they are instructed to oppose.

General Okumura claims that the Kuomintang forces are generally inefficient. In seven years of warfare, the total Japanese casualties are reported to have been under 25,000 for all of China. Notwithstanding the Japanese are loyally complying with their surrender agreement and are holding against the Communists, although they no longer have any direct interest in the war.

Since the surrender of Japan at the beginning of September, the Kuomintang has occupied and relieved Japanese troops at Nanking, Shanghai and Peiping. This was accomplished by Chinese troops flown in by American air transport. The U.S. Navy has transported other Kuomintang troops to Tsingtao and to Chinwangtao. By its own means the Kuomintang has attempted to take over the interior of China and had occupied Hankow prior to the period covered by this report. No opposition was met at any place.

Kuomintang armies started north from Hankow and Nanking in September, with the mission of reaching the line Peiping — Tientsin. These armies were blocked by Communist forces, which resulted in the air movement (over the heads of the Communists) to Peiping.

The forces which were taken to Chinwangto by sea circumvented the Communist forces destined to occupy Manchukuo (or Manchuria), which was held by Russian forces who had agreed to evacuate the entire province, less Dairen and Port Arthur, by 2 December. The Kuomintang was anxious to forestall the Communist forces and enter Manchukuo first, thereby not only seizing and utilizing vast industrial establishments in that area, but also seizing the materiel of the Japanese. This was the primary mission of all Kuomintang armies, taking precedence over disarming the Japanese and occupying other parts of China.

The U. S. 1st Marine Division held the railroad from Peiping to Chinwangtao with the mission (at least from the Chinese viewpoint) of covering the rear of the Kuomintang armies scheduled to advance from Chinwangtao into Manchukuo. Japanese troops covered and operated all other usable railroads north of the Yellow River. With the combined American and Japanese forces holding the important lines of communication, it was believed that the Communist armies would be unable to debouch from their stronghold in the mountains west of Peiping and attack the rear of Kuomintang forces going into Manchukuo.

There is no reliable data as to the Communist strength. According to Kuomintang intelligence reports, the total Communist armed forces do not exceed 600,000 men, or approximately one fifth of the reported strength of the Kuomintang. This is nearly all infantry. The Communist artillery is stated to include not over 15 batteries. Despite American training and American guidance, their great numerical superiority, and the very fine equipment which a substantial number of their troops have had issued to them, the Kuomintang troops have thus far shown little combat efficiency. To this extent the Japanese estimate of Chinese troops appears to be confirmed.

The U. S. 6th Marine Division has been holding Tsingtao. The Japanese hold the railroad west from there to Tsinan, and thence north to Tientsin. The Chinese were to take over the railroad and then move north to seize and hold the north shore of Shantung. The mission was to stop Communist sea traffic to and from Manchukuo. The Communists have a large number of junks which are helpless in combat, but since the Kuomintang has no navy it is unable to do anything to stop the Communist water circulation. However, the Chinese were by themselves unable to take over the Japanese-held railroad in face of Communist forces, and the Americans had made no effort to do so.

Fighting between Communist and Kuomintang forces has not been heavy during the period. Except in Manchukuo, no material change in the general situation has occurred.

MILITARY OPERATIONS —*The Manchukuo Area*

At the beginning of the period, the Kuomintang forces had assembled their 52nd and 13th Armies along the coast, thanks to the help of American air and naval forces. These had just broken through the Great Wall and were approaching Suichaung against slight Communist resistance. The 5th and 94th Armies were in reserve in the Tientsin—Peiping area.

The Kuomintang Intelligence Service had little information on Manchukuo and it did not know what conditions

might be expected. It was not even known just where the Communist forces were. As stated in the preceding section, the mission was to seize military materiel and industrial establishments before the Communists could get them. Defeating the Communist Army appears to have been considered as relatively a minor objective. Applications had been made to Marshal Rodion Y. Malinovsky, the Russian C-in-C, for permission to land troops (in American ships) at Darien and at Port Arthur, and to fly in troops (in American planes) over the Communists to key points in Manchukuo. It was requested further that the Russians guarantee no interference by Communist forces. Initially the Russian C-in-C refused both requests. It became necessary, therefore, to proceed overland into Manchukuo from Chinwangtao.

The original plan to occupy Manchukuo was now modified. The new plan was not to occupy all of Manchukuo at this time. Certainly not by 2 December, the date on which the Russian evacuation was to have been completed. Instead, the Kuomintang determined to limit its first advance to an occupation of the sea coast from Chinwangtao around the heads of the Liaotung Gulf and Korea Bay to the border of Korea. The Russians would be authorized and requested to continue their occupation of the rest of Manchukuo, on the same basis as the Japanese in China—that is, to maintain law and order and to prevent a Communist occupation.

Under this plan, the invading troops would be close to the sea and in a favorable position to be supported by the U.S. Navy. Their rear was covered by the American 1st Marine Division holding the Peiping — Tientsin — Chinwangtao sector. Russians would cover to the north and in Korea to the east. On the whole the plan looked fairly safe and appeared to guarantee the occupation of some territory without requiring much fighting, if any. If successful, the Communist sea traffic between Manchukuo and Shantung would be interrupted, provided the Russians refused to allow Communist vessels to use Port Arthur and Dairen. In fact, the Russians allowed no ships other than their own to use these two main ports.

A captured Russian GHQ order dated 23 August 45 directed local commanders to ship all movable machinery and stores out of Manchukuo, and to destroy what was not movable. A report dated 20 October 45 claimed that the foregoing order had been complied with. About 45,000 freight cars loaded with machine tools, electrical machinery, and stores are stated to have been shipped. Prior to Russian occupation, the freight cars of Manchukuo were of American pattern, and were capable of carrying about 40 tons each. Trans-Siberian RR cars were of European type, however, with an average lower capacity. It is not known which type of car is referred to. In any case, the number of carloads indicates that movable machinery in Manchukuo has been cleaned out. There is no report as to demolitions. If the Russians were as efficient in this as in the removal project it appears logical to assume that there is no industry left in Manchukuo. American correspondents reported that this was exactly the case in mid-November.

As to the disposition of the Russian-seized materiel, the only report is that the arsenal of Mukden was sent to Outer Mongolia. It is not known whether or not it was reestablished there.

Under Japanese domination Manchukuo had become the greatest industrial area in China. The province has extensive and valuable mines and resources and was of prime importance to the Japanese war effort. Temporarily at least, Manchukuo will be an economic liability rather than an asset, to whomever occupies it.

On 19 November, the 13th and 52nd Armies (four American-equipped divisions, including 1 armored division) occupied Suichung without major resistance. Communist troops withdrew westward into the hills. They raided in rear of the Kuomintang advance and interrupted the railroad and road which follow the coast. To prevent quick repairs, mines were buried in the debris of destroyed bridges. These caused more delay than casualties. On the 21st the advance reached Hingcheng, 25 miles beyond Suichung. On the same day the 5th and 94th Armies, advancing from the Peiping sector, reached a line from Nankow Pass (exclusive) to the Great Wall to the north and northeast. Nankow Pass is 35 miles northwest to Peiping. There was no special resistance anywhere. Next day the advance along the coast reached the vicinity of Hulutao, a small port. With Communist raids on the lines of communication continuing to such an extent that supplies were not coming forward, it was now planned to abandon the overland route and ship supplies by sea from Tientsin.

On the 23d, the 13th Army's armored division reached the vicinity of Chinhsien, after a 35-mile advance without opposition.

On the 24th, Russia announced that she would agree to China's request to the extent of postponing the evacuation of Manchukuo until 3 January 46. Whether any agreement was arrived at regarding Russian opposition to the Communist forces has not been ascertained. According to unconfirmed reports from Chinese sources, Russia demanded, and the Kuomintang government has agreed to, the price demanded for extended Russian occupation—namely, Russia to obtain joint ownership in the extensive Manchukuo iron and coal mines, a half interest in all power plants, and a half interest in the gold mines. Russia already had a half interest in the main railroad lines. China also agreed to allow Russia free navigation of the Sungari River.

As a result of the agreement with Russia, the Kuomintang decided to fly troops into Manchukuo. Application to have the U. S. Air Force undertake this task was refused. However, the United States did agree to release planes to the Kuomintang from the 10th Air Force (transport planes) and from the 14th Air Force (fighters). Both these forces were scheduled for demobilization. The number of planes to be transferred has not been released. Chinese reports state 700 as the lowest number given, and claim that this is to be increased later to 1,500. The first planes were reported as turned over on the 27th, or three days after the Russian agreement. Most of the planes were flown in from India and Burma.

As a further aid to the Kuomintang, the Japanese detailed a battalion of 1,000 men to operate and guard the railroad from Peiping toward Chengteh, with a view of enabling the Chinese armies still at the Great Wall to start an advance beyond. As the month of November closed, the Kuomintang troops along the coast had reached Chinhsien, from where the Communists had withdrawn without fighting. To the west, there had been no change in the line. The Communists continued to raid the lines of communication, and extended their attacks to the coal mining area near Chinwangtao. As the coal from that area supplied the railroad with fuel, the interruption of this service has a high nuisance value. Communist raids were by Underground bands not exceeding about 80 men who operated at any place where protection was light. Upon completion of the raid, the men dispersed to their homes. As the country is thickly populated, identification of members of the Underground was difficult.

On 2 December, the Kuomintang advance reached Tahushan, which is 65 miles west-southwest of Mukden. Next day Sinmin, 33 miles west of Mukden, was reached. No enemy was found. On 6 December, the Chinese were 25 miles from Mukden, which was in Russian possession. Authority to occupy Mukden was requested from the Russian High Command, but no answer was received. According to Chinese sources, before granting permission the Russians insisted that China agree to maintain troops in Manchukuo only at Mukden and Changchung. Other sections of Manchukuo were to be taken over by appropriate police forces, of which there were none.

On 3 December, the Kuomintang forces started a major attack astride the Peiping and Chengteh RR. After four days of what is described as severe fighting, the line was still short of the Great Wall, at Kupenkow, which town was reported as entirely in Communist possession.

By 18 December, when this account closes, the Kuomintang forces approaching Mukden were still outside of that city, the Russians having refused to allow them to enter. The Kuomintang made a new application to the United States to fly their troops from Peiping to Harbin, explaining they were unable to fly the planes themselves. There is no information as to whether the Russians will allow entry of other troops to Harbin, which is still held by them. At this date the Kuomintang forces in Manchukuo were hampered by the cold. The troops had been brought in American transportation from south China, which is tropical, and were neither equipped for nor used to extreme cold, for which Manchukuo is noted.

The Chinchachi Area

The Communist Chinchachi Command includes the entire north front, from Mukden westward. The operations from the vicinity of Peiping have already been described. In that area, the Communists maintained their lines during the period.

Communist troops of unknown strength, which had been blocking the Shanhaikwan and Mukden road and railroad, were withdrawn westward to a flank position in the hills about 40 miles from the coast. Jehol and Chahar provinces are reported as solidly held by the Communists. A detached force fell back before the Kuomintang advance on Mukden and, having passed through the city, withdrew to the high ground to the southeast. They made no fight. Another Communist force is holding the Nankow Pass on the road and railroad to Kalgan, 125 miles from Peiping.

Communist GHQ, which has been at Yenan (also known as Fushih) for years, is being moved to Kalgan, which is obviously destined to be a major Communist center. Whether GHQ will stay there or move further into Outer Mongolia is not known. This movement is well organized and is unusually complete. The road distance between Yenan and Kalgan is about 300 miles. Along this route 20 staging areas have been established at about one day's march (15 miles) apart. Each day a convoy, or caravan, leaves Yenan. The personnel includes the administrative offices and the Communist college. Office files, libraries, household goods, and other paraphernalia are moving in carts, on pack animals, and a collection of miscellaneous vehicles. The quantity and quality of articles moved indicate that this is a permanent change of station. Each convoy is allowed 30 to 40 days for the trip, which includes rests at certain of the staging areas.

At the beginning of the period, the Kuomintang held the towns of Tatung, Kweisui and Paotow with troops detached from all support. All three places were under siege. They had a nuisance value as road blocks. Despite the bitter cold and the considerable snow on the ground, military operations against the three cities continued.

On 22 November, the Kuomintang reported that a relief convoy, which had marched over 500 miles from Sian, had arrived at Paotow with stores, and had succeeded in delivering them to the encircled garrison.

At this time the Communists held an "election" in Chahar and on 24 November a new government was there installed. It was announced that only the head of the new government and two assistants were Communists. It appears, however, that the other members, although not officially members of the Party, had been selected and approved by the Communists. A similar election was scheduled to follow shortly in Jehol. This in turn was to be followed by a convention of all Mongol tribes and organizations, with a view of organizing an autonomous Mongolian state. Whether this will include Outer Mongolia or only Inner Mongolia was not stated.

In accordance with the Russo-Chinese Treaty of August, 1945, Outer Mongolia has been recognized as an independent state having no further political connection with China.

The foregoing events point toward a Communist plan to move closer to Outer Mongolia, which is dominated by Russia. According to British reports, not confirmed from other sources, the Communists have a secret agreement with Russia, and the redeployment of their main forces toward the Kalgan area is part of that agreement. Assuming that there is such an agreement, the recent military moves of the Communists in their Chinchachi Command are strategically sound.

On 25 November the Kuomintang intelligence report,

which is not very reliable, stated that large Communist reinforcements had concentrated along the hill line parallel to and west from the Chinwangtao and Mukden coastal strip.

Taking advantage of the reinforcements and materiel recently received, the Paotow garrison made a sortie on 1 Dec 45. They broke through the Communist line. The reinforcement had included Mohammedan cavalry, which pushed through the gap and attacked the rear of the Communists.

The Shantung Area

At the beginning of the period, the 6th Marine Division held Tsingtao, while the Kuomintang 8th Army was brought in by the U.S. Navy. The Japanese held the railroad westward to Tsinan, with their 47th Division at the latter place. An unidentified Kuomintang force (stated to be 2 armies or 4 divisions) was south of Tsinan astride the railroad to Nanking. Its forward elements appear to have been in the vicinity of Taian. A third army was in reserve and guarding the line of communications, with its main body near Tenghsien, which is about 100 road miles to the south. A Communist force held the high ground north of Taian, and separated the Kuomintang armies from the Japanese in Tsinan. These Communists were charged both with the siege of Tsinan and with preventing the Kuomintang from effecting a junction with the Japanese. The latter mission had been practically accomplished, but the Japanese kept open the railroads east to Tsingtao and north to Tientsin. About 20,000 Chinese troops which had belonged to the old Nanking pro-Japan Government were attached to the 47th Japanese Division.

The Communist 4th Army was operating along the south border of Shantung, and in north Kiangsi. On 23 November, this command entered Yencheng, which is at about the center of the province and only 120 road miles from Nanking. It was announced that all of north Kiangsi was now clear of Kuomintang troops. The coast line in this area is low and swampy. The Yun River (the west boundary of the province) is wide, has numerous lakes, and frequently overflows its banks. The Communist advance southward by the Kiangsi route has both flanks covered by difficult obstacles.

On 8 December, the Kuomintang 8th Army started out from Tsingtao with the mission of capturing Chefoo, 140 road miles distant and the most important of Communist held ports.

Having captured Yencheng in the meantime, the Communist 4th Army left a detachment there and withdrew its main body northward to Lini. From this center it organized a new offensive against the Kuomintang-held railroad northward from Nanking toward Tsinan. On the 13th the Communists launched an attack against Lincheng, a road and railroad center, but failed to capture this place.

The Southwest Area

At the beginning of the period the main front was near Sinsiang astride the Peiping and Hankow RR. At the end of October, a Kuomintang force had been decisively defeated in this area, and prevented from accomplishing its mission of advancing overland on Peiping. This had led to the Kuomintang forces' being flown to Peiping and beyond in American planes, over the heads of the Communists, who had road blocks on all lines of communication. A secondary front was about 140 miles northwest of Hankow on the line Siangyang—Tsaoyang.

During the first week of December, the Kuomintang organized a large force along the Lunghai Railroad between Tungkwan on the west and Chenghsien on the east. This is a 200-mile front just south of the Yellow River. Advance parties crossed this river. The presumed mission is to advance northward. In view of this threat, the Communists organized a new command to take charge of all troops in the threatened area.

Miscellaneous

On 15 December, the President of the United States issued a statement of policy regarding China. After expressing his displeasure at the war between the Kuomintang and the Communists, he announced the following actions as essential.

1. Cessation of hostilities between the two Chinese Parties.
2. A conference of major Chinese political elements to be held by the National (Kuomintang) Government to develop a solution for the unification of China.
3. The Communist Army to be integrated effectively into the National Army.

Provided the foregoing requirements were accomplished, the President announced that requests from China for credits and loans would receive favorable consideration.

At date of writing there had not been time to arrange for ceasing hostilities within China. As to the second requirement, conferences between the Kuomintang and Communist Parties have been common for years. Both have CPs in Chungking. The administrative and military leaders of both sides frequently meet together. They are personally on very friendly terms and, notwithstanding the war between them, habitually give cocktail parties and other entertainments at which the enemy leaders are welcomed guests. The requirement as to a conference will encounter no difficulty. There is no information available as to the absorption of the Communist armies into the Kuomintang Army. This proposition is not new, and has been discussed at great length in the Chungking conferences. Settlement failed to be arrived at, due to disagreement as to the conditions under which this reorganization was to be accomplished.

No progress has been reported as to the return to their own country of the Japanese forces still in China.

China is still receiving Lend-Lease materiel, including war supplies. Under an agreement made by the President, this is to continue until 2 March 46. This assures the Kuomintang of a full supply of weapons and ammunition up to that date.

An American force of about 2,000 men is being organized from ground, air and naval forces to train Chinese troops into a mold on American lines. Their assignment to this mission has not been finally approved.

MINUTES OF THE ANNUAL MEETING OF THE UNITED STATES FIELD ARTILLERY ASSOCIATION, DECEMBER 17, 1945

In accordance with the call of the Executive Council, the thirty-sixth annual meeting of the United States Field Artillery Association was held at the Army and Navy Club in Washington, D. C., at 5:30 PM, December 17, 1945. Major General Lewis B. Hershey, President of the Association, presided at the meeting.

A quorum was present in person for the transaction of business.

It was moved, seconded, and carried that the reading of the minutes of the 1944 annual meeting be dispensed with, these having previously been printed in the JOURNAL.

The President called upon the Secretary-Treasurer to present his report.

REPORT OF THE SECRETARY-TREASURER

In accordance with a decision reached at the 1944 annual meeting of the United States Field Artillery Association, the financial records of the Association for the year ending November 30, 1945, have been audited recently by an independent firm of accountants. The firm of Peat, Marwick, Mitchell and Co., Accountants and Auditors, of Washington, D. C., were employed for this purpose.

(At this point the Secretary-Treasurer requested that the President call upon the Chairman of the Auditing Committee to present the auditor's report, stating that he desired to make certain comments thereon, as part of his report. The President called upon Colonel William P. Blair, the Chairman of the Auditing Committee (previously designated to consist of Colonel Blair and Major Waldemar Solf), to present his report.

REPORT OF THE AUDITING COMMITTEE

Colonel Blair reported that he and Major Solf had examined the auditor's report and inquired generally into the financial affairs and procedures of the Association. He read the auditor's report, discussed briefly the possibility of the Association's establishing a double entry system of bookkeeping, and recommended that the auditor's report be accepted and approved. It was moved, seconded, and carried that the following report be accepted and approved:

PEAT, MARWICK, MITCHELL & CO.
ACCOUNTANTS AND AUDITORS

The American Security Building, Washington, D. C.
December 12, 1945

The Executive Council,
The United States Field Artillery Association,
Washington, D. C.

Dear Sirs:

In accordance with your instructions, we have examined the records pertaining to the cash receipts and disbursements of the United States Field Artillery Association for the year ended November 30, 1945. In connection therewith, we have examined or tested accounting records of the Association and other supporting evidence by methods and to the extent we deemed appropriate. We now submit our report on this examination, together with the following statements:

	Exhibit
Comparative Statement of Receipts and Disbursements for the Years ended November 30, 1945 and 1944	"A"
Comparative Balance Sheets as of November 30, 1945 and 1944	"B"

Receipts and Disbursements

In connection with our examination of the cash receipts and disbursements of the Association for the year, as shown in Exhibit "A," we compared the recorded receipts, as shown by the books, with the deposits appearing in the bank statements and found them to be in agreement. In support of the recorded disbursements, we examined invoices on other evidence in support of all disbursements, except in minor instances.

Assets and Liabilities

Comparative balance sheets of the Association as of November 30, 1945 and 1944, are presented in Exhibit "B," appended hereto. For purposes of comparison, we have accepted the figures as shown in the annual report of the Secretary-Treasurer for the year ended November 30, 1944, except in minor instances, without audit or examination.

The cash on deposit with the Washington Loan and Trust Company, Washington, D. C., was confirmed by certificate from the depositary.

As has been the practice of the Association in prior years, securities owned, as shown in Exhibit "B," are stated at market or redemption value, $38,569.07, which is approximately $2,500.00 less than cost. These securities were either inspected by us or confirmed to us by the custodian thereof as of November 30, 1945.

Furniture, fixtures and equipment, as well as office supplies, are stated at values as determined by the management.

No liability for accounts payable, other than for income taxes withheld, has been reflected in the balance sheet, since the accounts are kept on a cash basis.

The decrease in the excess of assets over liabilities for the year, $3,622.91, is accounted for as follows:

Decrease in net stated value of securities	$2,737.13
Decrease in estimated value of furniture, fixtures and equipment	257.25
Decrease in estimated value of office and mailing supplies	53.88
Decrease in inventory of books for resale	815.69
Increase in accounts payable (income taxes withheld)	36.30
	$3,900.25
Less excess of cash receipts over disbursements for the year	277.34
Net Decrease	$3,622.91

General

The minutes of the meetings of the executive council held during the year were inspected.

The Assocation carries workmen's compensation insurance, but no insurance is carried against loss by fire of the

furniture, fixtures and equipment. No employees of the Association are bonded.

We wish to express our appreciation of the cooperation and courtesy accorded to us by the members of the staff with whom we came in contact.

Yours truly,

PEAT, MARWICK, MITCHELL & CO.

Exhibit "A"

COMPARATIVE STATEMENT OF RECEIPTS AND DISBURSEMENTS

For the Years ended November 30, 1945 and 1944

	Year ended November 30		
	1945	*1944*	*Increase (Decrease)*
RECEIPTS:			
Membership dues and subscriptions	$26,899.50	$45,249.54	($18,350.04)
Book Department sales	15,418.04	25,187.77	(9,769.73)
Proceeds from sale of securities	6,182.00	7,010.00	(828.00)
Proceeds from sale of equipment	573.40	.....	573.40
Income from Armed Forces Digest	702.94	.....	702.94
Interest received on securities	368.04	353.33	14.71
Miscellaneous	7,617.76	2,584.47	5,033.29
	$57,761.68	$80,385.11	($22,623.43)
DISBURSEMENTS:			
Printing and mailing THE FIELD ARTILLERY JOURNAL	$27,918.44	$38,575.59	($10,657.15)
Authors, artists and photographers	3,141.00	5,101.15	(1,960.15)
Job printing	360.83	561.42	(200.59)
Office equipment	.....	46.50	(46.50)
Office supplies	242.20	599.15	(356.95)
Postage	2,043.28	3,281.42	(1,238.14)
Book purchases	11,635.32	20,364.91	(8,729.59)
Salaries	6,572.45	7,489.42	(916.97)
Rent	1,950.00	2,040.00	(90.00)
Telephone and telegraph	285.58	255.87	29.71
Refunds	96.91	317.51	(220.60)
Unpaid checks returned by bank	.....	168.76	(168.76)
Insurance and taxes	20.91	23.57	(2.66)
Purchase of U. S. Savings Bonds	2,000.00	.....	2,000.00
Miscellaneous	1,217.42	1,493.42	(276.00)
	$57,484.34	$80,318.69	($22,834.35)
Excess of Receipts over Disbursements	277.34	66.42	210.92
Cash in Bank at Beginning of Year	3,180.00	3,113.58	66.42
Cash in Bank at End of Year	$3,457.34	$3,180.00	$277.34

Exhibit "B"

COMPARATIVE BALANCE SHEETS

As of November 30, 1945 and 1944

	November 30		
	1945	*1944*	*Increase (Decrease)*
Assets			
Cash on Deposit with The Washington Loan and Trust Company, Washington, D. C.	$ 3,457.34	$ 3,180.00	$ 277.34
Securities—at market or redemption value:			
United States Savings Bonds	26,441.60	29,191.00	(2,749.40)
United States Treasury Bonds	5,677.97	5,566.45	111.52
Other bonds	3,310.00	2,968.25	341.75
Real estate notes	3,000.00	3,000.00	.....
Stocks	139.50	580.50	(441.00)
	$38,569.07	$41,306.20	($2,737.13)
Inventory of Books for Resale—at cost	3,374.31	4,190.00	(815.69)
Furniture, Fixtures and Equipment—at estimated values	3,474.17	3,731.42	(257.25)
Office and Mailing Supplies	853.62	907.50	(53.88)
	$49,728.51	$53,315.12	($3,586.61)
Liabilities			
Income Taxes Withheld	159.50	123.20	36.30
Excess of Assets over Liabilities	49,569.01	53,191.92	(3,622.91)
	$49,728.51	$53,315.12	($3,586.61)

(At this point, the President instructed the Secretary-Treasurer to continue with his report.)

REPORT OF THE SECRETARY-TREASURER, *Continued*

It is desired to point out, with firm emphasis, that the financial circumstances of the Association are not as healthy as might be gathered from a casual analysis of the foregoing report. The publishing business is a perfect illustration of what economists call a "decreasing cost" enterprise—that is, unit (per copy) cost decreases steadily as circulation increases. Exhibit "A" shows this clearly in the relationship between the two items, *Membership dues and subscriptions* and *Printing and mailing costs*, for the two years 1944 and 1945.

Attention is also invited to the following:

Exhibit "A":

a. Net transactions in government bonds ($6,182 sold and $2,000 purchased) represents a *decrease* of $4,182. These bonds *had to be sold* in order to improve the current cash circumstances of the Association.

b. There is no assurance that the current income from the *Armed Forces Digest* will continue beyond June, 1946.

c. Miscellaneous receipts of $7,617.76 consists primarily of donations from the Book Department at the Field Artillery School. The future receipt of such donations cannot be anticipated.

Exhibit "B":

The $3,374.31 asset, *Inventory of Books for Resale*, includes a sizable stockage of *Field Artillery Guides*. Whether or not these will all be sold eventually is a matter of considerable doubt.

Although the Association has considerable "fat" on which to draw during this critical post-war readjustment period, the current financial trend—the result, primarily, of the downward spiral of our circulation in recent months—is such that either income must be increased or the JOURNAL will be forced eventually to revert to a bi-monthly basis. The latter should be resisted to the utmost. Increased Association membership is the obvious solution.

Your Secretary-Treasurer is confident that the unsound current trend can be reversed, but desires to emphasize that to do so will require the active and continuing support of the entire membership.

It was moved, seconded, and carried that the report of the Secretary-Treasurer be accepted, without amendment.

The President, at this time, called upon Major General Orlando Ward, the Chairman of the Nominating Committee (previously designated to consist of Major General Ward, Colonel Ralph C. Bishop, and Lieutenant Colonel Tom B. Blocker), who presented the following slate of nominations for membership on the Executive Council:

Regular Army: Lieutenant General Raymond S. McLain, Brigadier General Edward S. Ott, Lieutenant Colonel Robert B. Neely.

National Guard: Brigadier General Harold R. Barker, Colonel Jess Larson.

Organized Reserves: Major General Frank E. Lowe

After opportunity had been afforded for further nominations,

a vote was taken which resulted in the unanimous election of the choices of the Nominating Committee.

Colonel Edwin S. Bettelheim, Jr., presented the following resolution, which was adopted:

"The members of the Field Artillery Association take this opportunity formally to record their grateful appreciation to Lieutenant Colonel John E. Coleman (recently replaced as Secretary-Editor and Treasurer) and the following retiring members of the Executive Council, for services rendered to the Association: Major General Ralph McT. Pennell, Major General Charles C. Haffner, Jr., Brigadier General William H. Sands, Colonel Stuart A. Beckley, Colonel Ralph C. Bishop, Colonel Michael Buckley, Jr., and Colonel Alan L. Campbell.

"Particular note is taken of the outstanding work accomplished by Lieutenant Colonel Coleman during his stewardship of Association affairs, which has covered a period of more than three and one-half wartime years. It is the sense of the Association members that, due primarily to the foresight, energy and capacity of Lieutenant Colonel Coleman, the Field Artillery Association has served well indeed, during this most difficult period, the objects for which it was formed."

The President added his own personal thanks and appreciation, in warm terms, to Lieutenant Colonel Coleman for his fine work during the war period.

The meeting adjourned.

* * * * *

The Executive Council met immediately after the general meeting of the Association and elected the following officers:

President—Lieutenant General Raymond S. McLain

Vice-President—Major General Louis E. Hibbs

Secretary-Editor and Treasurer—Colonel DeVere Armstrong

DEVERE ARMSTRONG,
Colonel, Field Artillery,
Secretary-Editor and Treasurer.

BOOK REVIEWS

THE WAR: FIFTH YEAR. By Edgar McInnis; introduction by Field Marshal Sir Henry Maitland Wilson. 368 pp.; chronology; index; maps. Oxford University Press. $2.50.

One of the "features" of the war just ended was the wide military use of the specialized talents of civilians. Equally important to the future is the careful, clear narrative of events put together by Professor McInnis, of the University of Toronto. His annals are classics. Although each year the war—and warfare itself—became more complex, his day-by-day history did not: it is as readable, and the threads are as easily followed, when the battle became world-girdling as when combat was confined to Europe and the Atlantic, in the war's early days.

With the thundering close of the war we are perhaps inclined to forget the trials and uncertainties of earlier periods. Their details are dimmed by the mere passage of time. Their day in the headlines seems to have been in the remote past.

But this fifth volume, covering the fifth year of the war (to September 30, 1944), brings them back into sharp focus. Then the German staff was jittery. Africa was entirely lost, Sicily gone, Italy herself under invasion. Balkan Partisans harassed outlying detachments and hampered their support. From the Sea of Azov to Smolensk Russia compelled withdrawals. Western Europe was under threat of invasion. The Japs had been thrown from the Solomons and part of New Guinea. And at sea the U-boat campaign was far from a success.

Such was the picture as this fifth year opened. The strategy and counter-strategy of that year unfold in these pages. In an easily-read style Dr. McInnis describes the military and political moves. May his series continue through not only the period of combat, but that of reconstruction as well.

THE COSSACKS: The Story of a Warrior People. By Maurice Hindus. 321 pp.; illustrated. Doubleday, Doran & Co. $3.00.

Maurice Hindus, who has been a successful journalist in this country for many a year, was born and reared in Russia. He knows and loves his native land—as is evidenced by his being permitted to visit it in 1926, 1936, and 1944. In each of those years he visited the land of the Don Cossacks and particularly of the Kuban Cossacks. Presumably he is as well informed of their current situation as is any "foreign" writer.

He is equally acquainted with the traditions and early history of this wild and untamed people. Their's is a proud heritage, from the day five centuries ago when they first appeared on the scene, a group of agriculturists banded together against the encroachments of the Mohammedans. From fighting in that common cause they learned their own strength and independence, formed their own communities, united their own State. So they continued until 1775, when the last of them came under the aegis of the Tsars.

Independent though they were, they recognized first the authority of their own chosen leaders and later that of the Tsar. Because of their wildness, their contempt for human life, and yet at the same time their strict obedience, they made ideal frontier guards and, later, a means for maintaining the internal control of the rulers. But it must be remembered that although they had put down many revolutionary attempts in the past, they refused to suppress the mobs when the Soviets came into power. Thus they entered the new regime in good grace.

The Cossacks had undergone a sort of taming under Old Russia, but their greatest change came with collectivization under the Soviets. Underlying all superficial qualities is their resiliency and

adaptability—which after all are perhaps closely akin to self-sufficiency and self-reliance. These basic characteristics have held the Cossacks as a closely knit group through the centuries. New members have been admitted to the clans from time to time, but have been absorbed into the greater whole much as on a larger scale the Chinese absorbed their conquerors. Possibly this was a source of continuing strength and vigor of mind and (especially) body.

Whatever the reasons, the Cossacks remain as one of the world's most colorful and unified groups. They have been less affected by changes of the past thirty years than have, say, the muzhik classes. This is well reflected in this account of them, which combines the sociological approach with the artistic, relating to the broad social trends of the Communists the folklore and trivia of peasant life. It all makes good reading, even though some of the Communist doctrine is much more applicable to Russia and acceptable by her people, than would be the case in a large part of the rest of the world.

A TREASURY OF HORSE STORIES. Selected and edited by Margaret Cabell Self. 364 pp.; illustrated. A. S. Barnes & Co. $375.

In putting together this anthology, the complier must have had a grand time. Countless tales must have been read, to get the list down to what is contained here.

There are good stories, interesting and well written. Authors include such writers as Hawthorne, Swift, H. H. Munro, Cowper, Lew Wallace, Will James, and Stephen Crane. They wrote about thoroughbreds and draft horses, standard breeds and ponies, cowponies and wild range horses, flat racers, steeplechasers, and trotters, in practically all parts of the world. All are grouped under headings of *Fantasy and Folkloke, Hunting and Polo. Three Famous Rides* (including Paul Revere's), *Horse Trading* (remember *David Harum*?), *Races and Runaways*, and a miscellaneous section. So much is here that this reviewer doesn't want to carp, but he does miss some of Siegfried Sassoon's *Memoirs of a FoxHunting Man*.

Horses may be a thing of the past in our Army, but horse-lovers are not. This is a fine book for all of them.

THE RING-NECKED PHEASANT AND ITS MANAGEMENT IN NORTH AMERICA. Edited by W. L. McAtee. 315 pp.; index; illustrated. American Wildlife Institute. $3.50.

Under the cloak of a coldly descriptive title and rather scientifically-written chapters, the American Wildlife Institute has produced a book that is fascinating to any pheasant lover or hunter, and one with superb color plates that deserve framing so their sheer beauty can be seen more readily.

In preparation for many years, this is the definitive, exhaustive type of book for which the Institute has become noted. Every aspect of the pheasant is covered: its history and migrations; its classification and distribution; its propagation; and its place and importance in the several regions of North America. These latter chapters describe propagation and feeding; pheasant farming and promotion; the effects of farm practices, climate, and latitude—section by section, region by region. There's scarcely a question that might be asked by farmer or hunter, breeder or conservationist, that's not covered here. And besides the magnificent color plates already mentioned, splendid half-tones amplify and illustrate the text.

MY TWENTY-FIVE YEARS IN CHINA. By John B. Powell. 422 pp.; index. The Macmillan Co. $350.

The life of the foreigner in China can almost be neatly divided into three periods. First, that of the Old China Hand, which started somewhere in the '80s and ran until the beginning of the first world war. The Old China Hand paid little attention to the fact that China was China and great attention to the fact that it wasn't India, and therefore wasn't ruled by the White Man quite as arbitrarily, pompously, and profitably as India was. Few of

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them spoke Chinese and few regretted their ignorance. Their whole intercourse with the natives was through interpreters, who for all practical purposes did the buying and selling and commanding and gave the white man a commission. What the average foreigner knew about the Chinese and Chinese politics, religion, and society could have been poured into a whiskey soda without affecting the taste in the slightest.

The second generation of foreigners in China, those living there in the period between the two great wars, have been called Old China Hands, Second Edition. They actually varied little in their manner of thinking and acting from the original old China Hands. Perhaps the biggest difference was that their interpreters, by and large, were more educated and had more political awareness than the Chinese who had interpreted for the original Old China Hands. This naturally gave the foreigner a better understanding of China and things Chinese, but the understanding was still second-hand and depended entirely on the ability and educations of the interpreter.

The third, and present, generation of foreigners in China will, I suppose, have to be called the New China Hands, and it is upon them that future relations between the United States and China will stand or fall. The New China Hand has taken the immeasurable forward step of speaking and reading Chinese, so that his associations, opinioss, and judgments are based on first-hand information.

Mr. Powell falls chronologically and lingually into the Old China Hand Second Edition classification. His twenty-five years in China covered the period between the two wars, and his knowledge of the Chinese was based entirely on information received through interpreters, backed by his acute observations. Despite this handicap, Mr. Powell emphaticallf proved himself a cut above the general run of the Old China Hand. He went to China as a young man because he wanted to go, and he stayed there because he admired and respected the Chinese and believed in their future—not solely because he had a job there.

When he landed in China in 1917 to work on the newly organized American paper, *Millard's Review of the Far East* (later the *China Weekly Review*), that was to bring a breath of life into the moribund newspapers of the far east, Powell quickly sensed the lack of communication betwees the Chinese and the foreigner. He went half way toward solving the linguistic problems by meeting and catering to the young Chinese who appreciated the occidental way of doing things and who were learning English in the new Chinese schools. He quickly made the paper the organ of the New China, and at the same time gave the foreigners more information about China than they had ever had before.

Despite these tremendous strides, however, in explaining the east to the west and the west to the east, Powell continually suffered under the great handicap of having to depend on interpreters and translators. This necessarily kept him on the fringt of the real China, and huge China that stretches back from the treaty ports and their foreign way of living to Russian Asia on the north and west and the Indian mountains and jungles on the south. Except for one spell when he was captured by bandits and forcibly taken away from the treaty ports, his sole acquaintance was with foreign China.

His account of China necessarily suffers by this self-imposed isolation from the Chinese China. The account of his twenty-five years there, and of the Chinese scene in the last quarter century, is therefore, except for the all too few personal experiences, one that could have been written by any competent historian who had never seen China.

Mr. Powell's unremitting fight against the Japanese will make his name long remembered in the far east. Right from the beginning he fought them tooth and nail, and incurred a hate that placed him high on their list of dangerous journalists. He ignored bribery and outbraved assassins, until the Japs finally took China and threw him into jail. The account of his year and a half in jail is an amazingly self-restrained narrative, devoid of any attempt to capitalize on the horror angle. R. G. M.

MY WAYWARD PARENT: IRVIN S. COBB. By Elizabeth Cobb. 255 pp. The Bobbs-Merrill Co. $2.50.

Irvin S. Cobb was one of our foremost citizens—be and Will Rogers and Will Hogg and their kind were made of America's very finest stuff. Known as a humorist, be was more than that. He was an American philosopher.

His passing left a void not just in our letters but in our counsel as well. Not that he preached, for he didn't. But by what he didn't say as well as in what he did, by his penetration of sham and his faith in American traditions, he surely played a part in the molding of public opinion and in holding our thoughts a little closer to the *right* ways for our country.

Now his daughter has written a recollection of him. The man, his kind, and his times are recreated. It is not a pretentious book, this, but it is the sort of thing Irvin Cobb would probably have liked. It should help keep alive his memory. In that it is good, for it gives a picture of a *man*.

THE STANDARD GUIDE TO PRIVATE PLANES. By Lester Ott. 128 pp.; illustrated; index. Aeronautics Publishing Associates. $2.00.

In most reviews appearing in these pages, the books are recommended either specifically or by inference. This policy was adopted because it seemed fruitless to describe a volume simply for the purpose of "panning" it. That still makes sense. Occasionally, however, a book appears which because of author or title, and a subject of wide appeal, seems to a casual prospect as if it fits his need exactly—yet the book itself may contain definite faults. When those cases come to our attention, we feel we should give as frank an opinion as when lauding a volume.

This *Guide* is described on the cover as containing "Complete Information for the Purchaser and Pilot of the Private Plane." Although nicely gotten up and containing some useful and interesting information, it certainly falls far short of that description. For instance, part of its data concerning specific planes pertains to pre-war models, although not so labeled. A large question as to the accuracy of the remainder is raised by discrepancies between figures in the body of the book concerning one plane, and the data set forth in the manufacturer's advertisement in the front of the book. The list of flying schools is much more incomplete than the caution note led at least this reviewer to expect it to be. And some of the general material is given quite sketchily.

On the other hand this is an attractive package, well printed, and containing a good bit of value. Plane illustrations and names and addresses of manufacturers are handy. Although brief, the comments on "How to Buy an Airplane" give good general advice; so does the section on insurance. The novice won't entirely lose if he invests in the book—but he must read parts of it perhaps more critically than he is qualified to do.

THE ATOMIC AGE OPENS. 252 pp.; illustrated. Pocketbooks. 25c.

ATOMIC ENERGY IN THE GOMING ERA. By David Dietz. 184 pp.; illustrated. Dod, Mead & Co. $2.00.

ATOMIC ENERGY FOR MILITARY PURPOSES. By Henry Smyth. 254 pp.; index; illustrated. Princeton Usiversity Press. In paper, $1.25; in cloth, $2.00.

The theories of modern science have been based upon two principles: the law of the conservation of mass (matter can be neither created nor destroyed) and the law of the conservation of energy (energy can be neither created nor destroyed).

Until very recently it was believed that for practical purposes these two laws were the separate pillars upon which the *corpus scientificam* rested, but within the last five years it has come to be believed that the separation between the pillars of the two laws was diminishing daily, for it has been discovered that matter can sometimes be converted into energy and energy into matter.

Some kind of a relation between mass and energy had long been suspected. Einstein as early as 1905 clearly stated that mass

and energy were equivalent, and suggested the equivalence by the equation $E = mc^2$, where E equal energy; m, mass; and c, the velocity of light. Translated into figures this simple equation is stupifying. It "shows that one kilogram (2.2 lbs.) of matter, if converted entirely into energy, would give 25 billion kilowatt hours of energy. Compare this fantastic figure with the 8.5 kilowatt hours of heat energy which may be produced by burning an equal amount of coal."

With such deceptively simple equations as that of Einstein's, the scientists of the world began the search for atomic energy. The results of their labors were proved at Hiroshima and Nagasaki, and the day after August 6, 1945, everyone was asking everyone else: whatinell is this atom thing anyway? What's it do? How's it work? Ho do you know? And these questions kept on coming despite the fact that even a 16-year-old high school student had told the world early in 1942 (in *Youth Looks at Science and War*) that the National Defense Research Committee was working on the military use of atomic energy.

Actually, there is nothing new in atomic energy. There hasn't been anything but atomic energy since the world began. What is new is using not surface atomic energy, but nuclear atomic energy—the enormously potent store of energy crammed into the infinitesimally microscopic interior of the atom.

It was the Germans—Hahn, Meitner, Frisch, and Strassman—who first cracked the atomic nucleus in 1939 and turned matter into energy. It was the scientists of the United States and the British Empire who harnessed this nuclear energy first, fashioning the two bombs that may change the course of history and saddling themselves with the responsibility of deciding which way the change will lead.

The importance of the atomic bomb is not so much the mechanics of how it works, but in the theory of what makes it work and what changes it will bring to the world. The advances of science have every year become more a social force and less a purely scientific accomplishment. We live as we do because of the internal combustion engine, radio, and other achievements of science. These achievements are relatively foolproof. The biggest engine in the world could blow a cylinder head and damage no more than a few dozen people. The radio may drive you crazy but it doesn't do you any physical harm. But an atomic bomb on the loose is a world threat.

That is why we should know not so much how it works, but the physics behind what makes it work, and what changes the malicious use of atomic energy can bring.

None of these three books deals at any length with the social and political implications of atomic energy. They all deal at considerable length with what makes it work. The *Pocketbook* is a very competent potboiler, and will give you about as much as you'd want to know, or could hold, in an evening's reading. The book by David Dietz is several steps more advanced than the *Pocketbook*. It has the usual crystal ball chapter that peers into the future; others that cover the background of the atomic theory, the development of the theory through the experiments in atom smashing, etc.; and winds up with an account of how the $2,000,000,000 was spent in producing the atomic bomb. The style is informal and clear, and though a little gee-whizish in spots, the book is essentially sound.

Dr. Smythe's report, after the first few introductory pages, was frankly over my head. If you have had a good grounding in college and graduate physics and chemistry you'll be able to understand it. If not, try one of the other two books.

R. G. M.

CREATIVE CRAFTS IN WOOD. By Michael C. Dank. 197 pp.; index; illustrated. Manual Arts Press. $3.00.

Handcraft work is a fine way to while away long winter evenings. It's an excellent thing with which to develop a youngster's manual dexterity. And in recent years it's been recognized as having both physical and mental therapeutic value—which is a high-priced way of saying you'll forget your worries if your hands

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are busy. Just look at the serenity of the old-time cabinetmakers?

Mr. Dank's book doesn't get into such complicated things as furniture making, but it does open up wide fields for pleasure. His basic tool is the coping saw, his products simple wooden toys, novelties, and small articles for the home. Other tools are involved, of course, and they and their use are fully described. In fact, the entire process is covered in detail, from the original choice of materials, through the cutting down of mill stock, making and marking of designs, cutting out simple or intricate parts, assembling them, and then finishing them. Two large and interesting sections deal with patterns and designs, and show photos (with text description of construction) of completed work.

The last third of the book concerns wood-stippling and woodchipping. Here again materials and tools are described, methods are given, and there are chapters on designs. Once the basic matters are mastered, one is on his own and "the sky's the limit" in his designing—but enough examples are given that one can get considerable mechanical experience, if he wishes, before branching off to his own design intricacies.

For years the author has conducted classes sponsored by the New York City school system and the Universal School of Handicrafts, New York. His clear and careful exposition reflects this background.

POLITICS AND MORALS. By Benedetto Croce. 204 pp. Philosophical Library. $3.00.

Although the title of this work seemingly indicates the relationship between politics and morals, this reviewer finds himself at a loss to explain just exactly what the book is about. The one clear-cut allusion to the title occurs early in the book when the author states the self-evident theory that private and public morals must be the same; that the world cannot continue to be governed by individuals who are observant of all moral precepts in the home and who are seemingly entirely ignorant of their very existence in the council chamber; or to rephrase it, the world cannot be governed on a Jeckyl and Hyde basis—saint at home and devil in the council chambers.

If the reader is interested in political science and collects books on the subject as a hobby, this work would be of interest. For the layman, looking for guidance and a clear-cut explanation of politics, and its relation to himself and to morals, this book is not the answer. A. E. G.

HANDBOOK OF KNOTS. By Raoul Graumont. 182 pp.; index; illustrated. Cornell Maritime Press. In paper, $1.00; in cloth, $1.75.

One of the finest and most useful books to which we have called attention was the *Encyclopedia of Knots* by Raoul Graumont and John Hensel. That is an exhaustive and monumental work, but scarcely a coat-pocket book.

This *Handbook*, by one of those same authors, is precisely what its name implies. Small and compact, it will readily slip into the pocket of coat or jacket. Its emphasis is on the practical rather than the decorative knots. It is a book for the fisherman. camper, boatman, and trapper, for the carpenter and logger, the handicrafter and occupational therapist. In 47 plates it illustrates 528 knots, practical ones, with additional text to clarify still further the making and to describe the uses. It is another fine example of the careful thought this publisher gives to its publications.

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ARMS AND POLICY

by Hoffman Nickerson

THE brilliant author of *The Armed Horde* surveys the tactical and strategical lessons World War II has taught us. He begins with a chapter on Mass Warfare, explains the military background of 1939, and then gives us a summary of the military strategy employed in the world theater from 1939 through 1944. He shows us the development of larger tactical units, the increased use of artillery with great range and power, the lightning victories that the team of planes and tanks made possible in the early years of the war, the increased use of bombing, and the military problems that Germany faced when Russia was attacked. With Pearl Harbor the author turns his attention to the strategical difficulties that confronted the British-American Allies, explains the campaigns in French North Africa, and carries on his narrative through the European campaigns that followed D-Day.

ONE of the most interesting features of *Arms and Policy* in Major Nickerson's discussion of the postwar military policy of the United States in terms of geography and recruitment and our unique strategic strength. This brings him, in a final chapter, to a sober and informed discussion of the chances of a tolerable degree of future peace.

HOFFMAN NICKERSON is the author of several books and a frequent contributor to both general and Service publications. He wrote the article on *War* in the Encyclopedia Britannica, and the *Field Artillery Journal* has said that he "is considered by many to be the foremost American writer on the higher theory of war." Until 1944 he served as a Major in a section of the General Staff in Washington.

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