

*The*  
**FIELD ARTILLERY**  
*Journal*



IN THIS ISSUE:

*Desert Tactics*

OCTOBER, 1942

# Latest Books on Military Training

## THE OFFICER'S GUIDE

NEW 9th Edition

[Over 200,000 sold]

For the third time this year THE OFFICER'S GUIDE comes out in a new edition to bring you the latest information on the mass of War Department regulations and orders affecting the officer.

This new Ninth Edition contains more information than ever before. Full details of the new pay bill are included, of course, and a clear explanation of the new supply procedure. The Army Specialist Corps and the WAAC's are fully covered. Much new information on provisions in anticipation of death, and overseas service, plus scores of other changes, make this the biggest and best OFFICER'S GUIDE ever published.

New Index

\$2.50

Illustrated

## COMPANY ADMINISTRATION and PERSONNEL RECORDS

Lt. Colonel C. M. VIRTUE

New 12th Edition

The Unit Bible has been largely rewritten to bring it in step with the latest regulations. The whole chapter on pay has been overhauled to conform to the new payrates. New illustrative problems on pay rolls, new pay tables and new examples have been included to make the procedure as simple as possible. The Chapter on Supply explains carefully all the provisions of Circular 105, and gives a blow-by-blow account of how to handle the new procedure. Allotments to Dependents and many other matters have been added or brought up to date. In other words, COMPANY ADMINISTRATION is once more up-to-the-minute. You'll find this the handiest book in the world to have for yourself and for the Unit Headquarters.

Spiral-bound paper cover, \$1.50

Sturdy cloth cover, \$2.00

## THE SOLDIER AND THE LAW

Lt. Colonel JOHN A. McCOMSEY - Captain MORRIS O. EDWARDS

The soldier is concerned with three angles of military law: Court Martial Prevention, which keeps him out of trouble; Court Martial Duties, which tells him what to do on a court; and Court Martial Procedure, which tells him how a court is conducted. THE SOLDIER AND THE LAW is the only book which covers these three angles. An invaluable handbook for everyone.

Illustrated

\$1.50

Index

## MAP AND AERIAL PHOTO READING, Simplified

Colonel W. F. HEAVEY

New 4th Edition

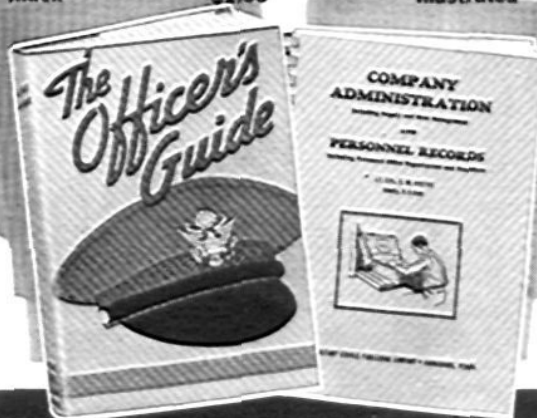
The Military Engineer calls this "the kind of text I should like to use to train my soldiers." It covers every angle of map and aerial photo reading. Over fifty drawings, twelve full page reproductions, a four color map carrying an overlay, two protractors (one in degrees and one in mils) and a photo coordinate card make this the most complete book on the market. All problems are based on the same map, and the questions and exercises carry through in logical progression.

Index

\$1.00

Illustrated

The Field Artillery Association pays all postage on all orders and handles all types of books.



The Book Reviews in the *Field Artillery Journal* bring you the latest information on the latest books.

## U. S. FIELD ARTILLERY ASSOCIATION

1218 CONNECTICUT AVENUE

WASHINGTON, D. C.

MAJOR JOHN E. COLEMAN, *Editor*  
 CAPTAIN A. V. RUTLEDGE, *Assistant*  
 LENNA PEDIGO, *Business Manager*

# The Field Artillery Journal

"Today's Field Artillery Journal is tomorrow's training regulations."

OCTOBER, 1942—Vol. 32, No. 10

PAGE

SOUTH AFRICAN troops have distinguished themselves in the African theater. Two of their brigades (roughly equivalent to our regiment, reinforced) were uniformly successful in the East African campaigns in the summer of 1941. After they moved to Libya, however, their fortunes diverged sharply during the British drive to the west in November.

The full story of the 1st and the 5th South African Brigades has never before been published. It is with distinct pride that the JOURNAL gives its readers a group of detailed, authentic, eye-witness accounts which clearly show the reasons for the success of the 1st, the defeat of the 5th. Our sole comment is this: Again is proven the need for a *balanced force of all arms, strong in artillery, properly used.*

NEXT MONTH Captain Robert Amory, Jr., presents a practical, useful article on *Celestial Navigation for Field Artillery*—to many a forbidding subject. Pre-publication interest is so high that arrangements have already been made for reprints to be available at 25c per copy, subject, of course, to quantity and members' discounts.

WE EXPECT TO HAVE the *Field Artillery Guide* off the press about October 1st. Condensed from Field Manuals, Technical Manuals, and other official training literature, it covers the entire field of *reference material needed in the field*. Not an instructional text, it condenses and boils down the practical matter. Repetitious dead wood has been cut out, and authorized abbreviations are used freely.

*Field Artillery Guide* covers the ground of a tall stack of books. With it in your musette bag, you need only your range tables and the manual for the particular weapon with which your unit is armed.

Price? \$2 per copy in sturdy binding, with rain-, sweat-, and weather-resistant cover. For those who want the stoutest binding possible and who want to run no risk of having their copies wander off, we offer a leather cover with title and owner's name embossed; this special job runs \$5. All prices, of course, are subject to members' discount, and remember, enlisted men are fully eligible for associate membership.

## The United States Field Artillery Association

ORGANIZED JUNE 7, 1910

President  
 Brigadier General George R. Allin

Vice-President  
 Major General Lewis B. Hershey

Executive Council

Brigadier General George R. Allin  
 Brigadier General William H. Sands  
 Brigadier General C. C. Haffner, Jr.  
 Brigadier General Rex W. Beasley  
 Colonel Alan L. Campbell  
 Colonel Thomas North  
 Colonel Ralph C. Bishop  
 Colonel Maurice W. Daniel  
 Lt.-Col. George L. Hart, Jr.

Secretary-Treasurer  
 Major John E. Coleman

THE COVER ILLUSTRATION: STAFF OF THE 22ND ARMORED BRIGADE

### DESERT DEFEAT

MEDITERRANEAN ODYSSEY ..... 739  
*By Lt. Col. Michael Buckley, Jr., FA*

PERSONAL EXPERIENCES ..... 744  
*By Major James Tasker*

DESERT TANK BATTLE ..... 747  
*By Harold Denny*

AS HEADQUARTERS SAW IT ..... 749  
*By Alexander Clifford*

DESERT VICTORY ..... 750  
*By the Commander (Nov., 1941) of the 1st South African Brigade*

BRITISH BOOTY ..... 754

HAS FIELD ARTILLERY LEARNED TO PROTECT ITSELF? ..... 756  
*By Capt. Ed. Bauer*

RIFLE MARKSMANSHIP FOR ARTILLERYMEN ..... 758  
*By Capt. T. N. Dupuy, FA*

AN ALTERNATE LINE-UP FOR FIELD ARTILLERY ..... 761  
*By Capt. E. A. Raymond, FA*

CURRENT BRITISH DOCTRINE ..... 762

POSITION PROTECTION ..... 763

GET TOUGH! ..... 764

SOCK 'EM ..... 766

RUSSO-GERMAN WAR: PART V ..... 767  
*By Col. Conrad H. Lanza*

APPROACH TO FOREIGN MAP READING ..... 774  
*By Lt. Robert B. Rigg, Cav*

THE CAUCASIAN ISTHMUS ..... 783  
*By Capt. Arthur Henry Mochlman*

AWARDS OF ASSOCIATION MEDAL ..... 787

THROUGH THE MILL: V ..... 788  
*By Capt. John Hughes*

A DEADSPACE CHART FOR YOUR HOWITZER ..... 792  
*By Capt. Robert C. Gildart, FA*

PREVIEW IN THE CHACO ..... 794  
*By Capt. Edward A. Raymond, FA*

BELOW LUZON ..... 796  
*By Major Edward Kraus, FA*

COLOR-LUBRICATION PLAN ..... 804  
*By Lt. G. R. Metcalf, FA*

DIARY OF WAR EVENTS ..... 805

NOT IN THE BOOK ..... 806

BOOK REVIEWS ..... 808

*Authors alone are responsible for statements made. No articles are official unless specifically so described.*

Published monthly by the United States Field Artillery Association. Publication office 3110 Elm Avenue, Baltimore, Md. Business and editorial office, United States Field Artillery Association, 1218 Connecticut Ave., Washington, D. C. Address all communications to the Washington office. Entered as second class matter August 20, 1929, at the post office at Baltimore, Md. Copyright, 1942, by The United States Field Artillery Association. Subscription price \$3.00; Canada \$4.00; foreign \$3.50; single recent copies to members, 25 cents; nonmembers, 35 cents. THE FIELD ARTILLERY JOURNAL does not accept paid advertising. It does pay for original articles accepted, but unsolicited manuscripts must be accompanied by return postage if they are to be returned. *Addresses, and changes of rank, will be changed as frequently as desired, upon notification; not otherwise. Changes should reach the editor three weeks before date of next issue. Immediate notice should be given of any delay in the receipt of the magazine.*



# MEDITERRANEAN ODYSSEY

By Lt. Col. Michael Buckley, Jr., FA

From October 11th, 1941, when I arrived in Cairo as an observer for the Chief of Field Artillery, until November 17th, I had a chance to make three observation trips. Totalling some twenty days, these gave an opportunity to observe different elements of the British 8th Army in the Western Egyptian Desert.

Rear area bivouacs were all well dispersed. Adjacent tents were 100 to 200 yards apart, and their floors were excavated enough that personnel slept below ground level for protection from both blast and splinters. Towns and their buildings were avoided, and the soundness of this course is shown by the relatively few casualties despite numerous Axis bombings. Vital vehicular parts were protected too, by parking trucks in V-shaped ditches deep enough to shield transmissions and differentials, if not motors.

Gasoline and ammunition dumps in forward areas were composed of a large number of small piles scattered over a rather large area. In rear positions which could be attacked only by air, gasoline refilling points consisted of piles of about 100 5-gallon cans, the piles spaced 20 to 50 yards apart.

In their ground strafing attacks the German planes paid particular attention to staff vehicles (usually Ford station wagons) and water trucks. As a result, when within range of Axis light bombardment, British convoys maintained 100 to 200 yards between vehicles and each personnel carrier had one man detailed as air sentry.

In static defensive positions the British used antitank mines extensively. Fields varied in depth from several hundred yards to about 1,200 yards, and all were enclosed by barbed wire to prevent friendly troops from wandering into them, especially at night. Despite all precautions there were inevitably a few accidents, giving the impression that such defenses are practicable only in static defense where ample precautions can be taken to protect friendly troops, or in retrograde movements to delay the enemy after our own troops have passed.

In the desert there are practically no prominent landmarks. Adjacent units are separated by comparatively great distances: in one position a division headquarters was some thirty miles from its corps headquarters. Messengers, agents, scouts, and the like must therefore be exceptionally proficient in map reading, and in the use of compass and vehicle odometer to move from point to point.

Three most interesting days were spent with one of the "mobile columns." These detachments included field artillery, infantry, and AA and AT artillery, and two of them operated forward of the mine fields and in rear of the

area of contact of armored car units. Their mission was to delay any aggressive German action, and to reinforce the armored cars in limiting enemy ground reconnaissance. At dusk the troops and vehicles of the column I was with were collected and moved into a bivouac with vehicles closely grouped—only 5 to 10 yards apart. For protection of the sleeping men, all slept with their heads close up to their vehicle, and a guide on foot preceded each vehicle which moved in the area. This method was much safer than others: several weeks later, when I was with another unit, an officer who was sleeping in his slit trench several yards from his vehicle was run over by a passing truck.

## OPENING OF THE BRITISH NOVEMBER OFFENSIVE

The first day of the British offensive I accompanied the headquarters of the Corps making the envelopment. The advance was without incident.

For the next two days, November 19th and 20th, I accompanied the 1st South African Division headquarters. After a warm welcome, General Brink, the Division Commander, questioned me on the situation—Corps had control of the Air Tactical Reconnaissance planes, and not much information was coming through. On the afternoon of the 21st I accompanied him on a visit to the 1st S. A. Brigade, then in contact with the Ariete Armored Division at El Gubi.

On the next morning, Saturday, I went with a liaison officer to the 5th S. A. Brigade, which had been detached, sent to the north, and attached to the 7th Armored Division. I was told that on the preceding day it had repulsed a half-dozen Italian tank attacks varying in strength from 3 to 20 tanks, at least 7 of which had been knocked out with light casualties: one 25-pounder temporarily knocked out of action and several cannoneers killed.

The Brigade shortly made a 7-mile forward movement, during which a low-flying ME-109 was brought down. We halted about noon, by which time friendly armored car units had made contact with the enemy some 4,000 yards north of us and captured about 40 German stragglers. Shortly afterward the support group of the 7th Armd. Div. turned over approximately 600 prisoners for movement to the rear.

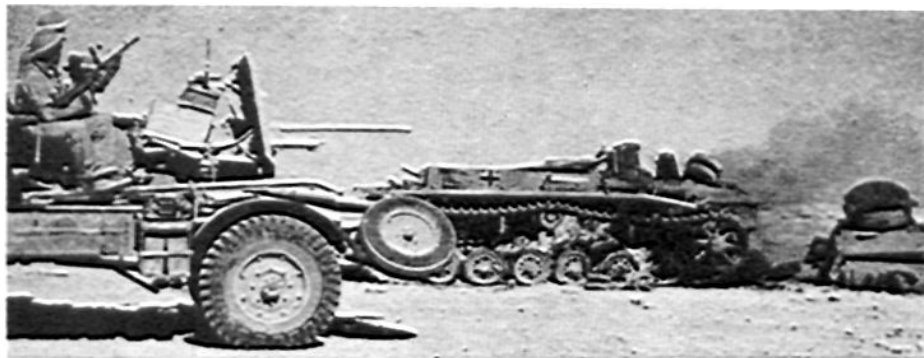
## AFTERNOON, NOVEMBER 22, 1941

In this area the terrain was very gently rising (possibly 6 inches in 100 yards) to the north for about 4,000 yards, where it dropped off into a small wadi or ravine. To the northwest beyond the wadi a long (600-800 yards) low hill appeared to dominate the position of our

brigade. The liaison officer from the support group of the 7th Armd. Div. informed the brigade commander that some Germans with machine guns and mortars in the wadi to the northwest were firing into the rear of the support group, and that the Brig. Comdr. was requested to clean out this opposition.

Our commander turned the mission over to his leading battalion, which included an attached battery (our battalion) of eight 25-pounders.

The battalion commander decided to move on the wadi with his two outside companies deployed in line on a bearing of 330 degrees, while his center company hung back possibly 200 yards. Men in the companies were deployed at not more than two-pace intervals, and all companies were preceded by scouts. An artillery liaison officer using wire communication was with the infantry



*An AT crew post-mortems a victim.*

battalion commander, and each company commander was accompanied by an artillery forward observer. No survey had been made, so the fire of the two 4-gun troops could not be massed, and no registration preceded the attack. Both infantry and artillery communication to the rear was by wire, which functioned throughout the attack. Communication between the battalion CP and the companies was by portable radio and runner.

After the battalion had advanced to the northwest for about 600 yards, one enemy machine gun opened up. From its pattern on the firm ground it was noted that the firing came from the right front, but no machine gun could be picked up. For the next 3,000 yards, from one to about six machine guns would fire intermittently in short bursts. No casualties resulted, nor was it possible to locate the source of the firing.

After the battalion had advanced possibly a mile, an Axis dive bombing attack was noted to be taking place to our rear. Shortly afterward three ME-109s flew low over our position; all small arms fired at these planes, but none came down. I was later told by an eye-witness that 45 planes had dive bombed the "B" Echelon (field trains), causing around 30 casualties at a cost of five planes shot down. Although none of the three planes over my position were shot down, it was inspiring to see the confidence and

the discipline with which the infantrymen fired on those planes.

The scouts were unable to reach the edge of the wadi, being (I should say) some ten to fifteen yards short. The advance of the companies was also stopped on this same line. Enemy machine gun fire was now rather dense, probably 50 to 70 guns being in action. The battalion commander placed his heavy machine guns in action, and later called on his 3-inch mortars for HE and smoke. The battalion CP was established approximately 50 yards behind the infantry line. Occasionally a soldier in the forward elements would stand up, aim deliberately, and then fire his rifle. Soldiers in the front line marked the positions of their adjacent wounded comrades by standing up and working the rifle's bayonet into the firm soil; stretcher bearers (colored) would then run forward, place the wounded man on the stretcher, and carry him to the rear. There was no shouting or other confusion; it all might have been a well rehearsed demonstration.

Initially, armored cars brought up additional wire and ammunition. Later they were used to move the wounded to the rear. But as each time they approached the firing line they attracted dense fire from all directions, the men were reluctant to see them draw near.

For possibly 30 minutes after the firing line had been built up on the line of scouts, no supporting artillery fire was delivered. During the mortar firing some decrease in the intensity of the enemy's machine gun fire was noted. The enemy, however, replied with mortar fire, and our support mortar squads soon exhausted their ammunition; and following the mortar fire the enemy machine gun fire seemed to be even heavier than before. The liaison officer then suggested that some artillery be delivered on the area in front of the firing line, and the battalion commander agreed. In the next 10 or 15 minutes about 30 rounds of 25-pounder HE landed on that area; during the detonations the enemy fire decreased in intensity, but immediately thereafter resumed its previous volume.

Failing to obtain fire superiority, the battalion commander requested tank support. He obtained six tanks, but I was told that when they approached the enemy position they received such heavy antitank fire that they withdrew.

Following the failure of the tank attack, the battalion commander moved to an abandoned Bren carrier about 100 yards to the left of his CP. In attempting to obtain observation on the enemy position from this elevation, he was mortally wounded.

At nightfall the advance elements withdrew approximately 500 yards and dug in. In the engagement this day approximately 25% of the personnel were casualties, including the battalion commander, the second in command, and about 50% of the remaining officers. During the evening I was reliably informed that one artillery officer had gone into the area of the adjacent unit, from which point he obtained some observation and was able to knock out several machine gun nests and one antitank crew. During the night, with a view to resuming the attack at daylight, reorganization was ordered; it was not completed, however, by daylight.

I was later told by a captured New Zealand battalion commander that in this same period the New Zealand Division experienced exactly the same results in daylight raids. They solved the problem by making night attacks which were successful in every case. The procedure was to form a dense skirmish line with a maximum number of automatic weapons and bayonets, and march on a fixed azimuth. No prisoners were taken. Initially relatively few casualties were experienced, but later the Axis put up hooded lamps in front of their position on which to sight defensive fires; when these lamps were passed, defensive fires opened up. Although these fires were reported to have been good, the night attacks continued to be successful.

#### SOME LESSONS

**The Germans are skilled in the use of cover. Throughout five hours of action very few targets were picked up, indicating the need of more forward observers rather than fewer. These observers must be so organized that all parts of the zone are under constant observation. This further implies that the supporting artillery commander, especially in the initial stages of an action, must be well forward to assign and coordinate observation zones.**

**Infantry mortars should be restricted to observed targets, lest they run out of ammunition. The value of smoke from such weapons is highly debatable.**

**A decrease in intensity of enemy fire must be recognized by the infantry as a signal to advance. It is doubtful if all enemy weapons can be located and neutralized, but enough should be knocked out to permit the advance without heavy casualties.**

**Prominent points on the battlefield attract fire. In infantry action, such things as gun carriers, armored cars, etc., should be avoided.**

#### CAPTURED: NOVEMBER 23, 1941

At daylight enemy artillery fire was received from three directions, southwest, south, and southeast. Shortly afterward five Italian tanks attempted to run through the defensive position to the north; three were knocked out by 25-pounder fire and two escaped. The firing from the rear (the brigade was still facing north) continued intermittently until about 11 AM.

Around 10 AM German infantry, supported by artillery and a few tanks, attacked the position from the north; they were repulsed. From then until about 2 PM our defensive position received 105-mm. howitzer harassing fire.

About 2 PM the German attack from the north was renewed with stronger artillery and tank support. Reinforcements were requested, and an hour later it was reported that the attack was repulsed.

At about 3 PM German artillery fire from the southwest opened up on the "B" Echelon area. After 15 or 20 minutes it was shifted to the vicinity of the brigade CP, and later machine gun fire was placed on the CP area. This latter seemed to increase in intensity so that practically everyone about the CP remained in his slit trench. About this time I noticed three or four 2-pounders mounted on trucks moving south through the CP area, evidently to reinforce the 18-pounders used for AT weapons with the trains.

About 4 o'clock, German tanks were observed moving from the south in a wedge formation with 40 to 60 yards between tanks, at a rather slow speed—probably 4 to 6 MPH. Some 300 or 400 yards to the left of this wedge, four Mark III tanks parked hub-to-hub were firing to the front and to their right, apparently covering the advance of the wedge. After the leading tank had passed the brigade CP by some 400 yards, it turned around, returned, and the commander stuck his head out of the turret. He motioned the brigade commander to mount the tank, and the rest of us to get out of our trenches and move to the rear. Although this tank did not approach our slit trenches, other prisoners reported that enemy tanks had run over occupied foxholes.

After moving about a mile to the rear, we noticed a German 105-mm. howitzer battery about to open fire. The tubes were elevated to clear a mask formed by captured British trucks. Conventional half-track prime movers were scattered nearby.

After proceeding another mile, which cleared the field train area, prisoners were processed by a lightly armored vehicle, where they were searched for firearms by three Germans. We then proceeded another mile to where guards detailed from the personnel of a 50-mm. AT battery formed a PW Collecting Point. This position appeared to mark where enemy units from the west changed direction, some moving south from here, others southeast.

Around dusk (6:30 PM), six British cruiser tanks approached the position from the west. We did not observe these vehicles until the German guards started to leave hurriedly and the antitank guns, which were in position about 200 yards to the west, began to move out. Within 30 seconds the entire battery had executed *March Order*, with guards collected, and all started moving to the south. The dust cloud (wind blowing to the north) raised by the departing vehicles provided an effective screen. The battery stopped and went into action about 800 yards south of us. The British tanks approached to within 50 yards of our location, stopped, and the tank commander looked about as if confused—the situation had changed radically in the last 10 hours. The first round from the AT battery fired the leading tank, whereupon the remaining tanks promptly moved to the east and escaped.

Later in the evening men from a 150-mm. howitzer battery relieved the AT battery guards. All of the three German officers present could talk English, and one could speak it well. The commanding officer, however, refused permission for me to see anyone in authority, stating that although the United States and Germany theoretically were not at war, actually they were and that I would have an opportunity to see the Intelligence Officer in the morning.

The prisoners included a number of wounded. The South African doctors requested—and were refused—permission to return to the captured area to obtain morphine from their captured first aid stations. What little water we had available was given to the wounded.

#### SOME LESSONS

**Inssofar as is at all possible, field trains should be kept out of the combat area. Thirty or 40 miles to the rear, they need organic AA protection and enough armored cars to give ample warning of the approach of hostile mechanized elements. Communication with these reconnaissance elements and with the brigade must then of course be by radio.**

**Basically, the AT gun must ambush the tank. The AT gun squad will live, generally, so long as its position is undisclosed. Mounting these guns on trucks makes concealment difficult in general, and in the desert almost impossible. Of course, the original purpose of such mounts was to give the weapon greater mobility, as when the enemy meets anti-mechanized opposition he invariably tries to go around it.**

**In such open country the German method of emplacing guns behind vehicles does seem to minimize exposure to hostile observation.**

#### NOVEMBER 24 - DECEMBER 4

The next morning we were marched back to the captured area, where we watched German crews servicing tanks and other vehicles which had been in combat the preceding day. Several vehicles drove up, waited until a German photographer was ready, then started to distribute a few gallons of water among two thousand thirsty prisoners. The whole performance was manifestly absurd and for propaganda purposes only.

About noon we were moved by truck around the fortified area of Tobruk and to a point about 15 miles beyond. While passing the fortified area the column was threatened by British air attack and subjected to artillery fire. Several casualties resulted among the prisoners. After being detrucked we were marched back many miles to the PW cage at Tobruk, where we were transferred about 10 PM to Italian custody. We were given some water, but the food was insufficient for all prisoners: many went without.

Next morning prisoners of war were again searched, and many articles of a personal nature of no military value were confiscated. We again were loaded into trucks and evacuated to Derna. Though we arrived there about 3 PM we were held in the trucks till 6:00 for unknown reasons. Here many obtained food from the Axis for the first time since capture—it consisted of a small tin of canned meat and a hardtack biscuit. Sanitation was conspicuous by its absence.

Bengasi was reached on Thursday evening, November 27th. Two thousand prisoners were beyond the capabilities of the Italian authorities, so the internal administration of the camp was turned over to British and Colonial officers. Italian guards, both soldiers and noncoms, were as a rule in the older age bracket and appeared to follow instructions rigidly; their uniforms, weapons, and equipment when judged by our standards indicated definitely a low degree of training and morale. Sanitation was again poor, and an epidemic was feared. Food was more plentiful but still inadequate, consisting of canned meat, hard biscuits, macaroni, soup, and substitute coffee. However, we were issued 25 cigarettes (5 packages) each. When about 60 additional prisoners were interned the request for additional cigarettes for them was answered that there were no more available in Bengasi, and that the food ration could not be increased due to the activity of British submarines in sinking ships and the R.A.F. in bombing ports.



*Axis shipping in Bengasi harbor*



On Sunday, the 30th, about 120 officer prisoners were embarked on an Italian cruiser at Bengasi. Embarkation was delayed pending the unloading of gasoline in 5-gallon containers and the hold's being cleared of fumes. We sailed at nightfall and arrived at Suda Bay, Crete, the next morning. Leaving there at dusk, we reached Taranto about 9 o'clock the following evening. On board the *Vittoria* before leaving Taranto, we were given the first decent and adequate food since our capture. We were then entrained and moved to a transient prisoner of war camp near Brindisi.

Next morning, Wednesday, December 3d, upon request of the senior British officer present to the inspecting Commandant of the district, we were supplied with two additional blankets (making a total of four), tobacco, and a barber. The temperature was near freezing, and the wood quarters contained no stoves. All the guards were either elderly (50 to 60 years) or young boys. Toilets were primitive. Food consisted largely of macaroni, some bread, ersatz coffee, and fruit; it was inadequate. Before we left, some wine was made available.

#### DECEMBER 5-30

On Friday evening, the 5th, Harold Denny of the *New York Times* and I entrained for Rome in the custody of two state policemen and an NCO. On arriving, we were placed in a barracks within a cavalry regimental area about two blocks from the railroad station, reserved for war prisoners. The lower floor held about thirty Indians who, I heard later, were being subjected to Axis propaganda. Mr. Denny and I were given two separate rooms on the upper floor and, initially, forbidden to communicate with each other.

There were four exterior guards, one at each corner of the building, and two inside: one on the stairway and the other at our doors. Guards were detailed from the cavalry unit, and all seemed to be fairly young—even the sergeants of the guard. With one or two exceptions their appearance, including arms, uniform, and equipment, was decidedly below our standards. Their care of animals appeared to be satisfactory, but aside from one or two equitation classes no drilling was noticed. In the area immediately in front of the barracks, officers individually exercised their mounts, which were of a superior type, without exception.

Although there was ice on the walk outside this barracks when we arrived, we were without any heat for about a week. One could be comfortable only by exercising



*British tanks are often concealed before their attack. In the desert this means digging in well and covering with canvas. Here the process is just under way, with some equipment still scattered and the spoil not yet levelled off. Tow cables are standard equipment to facilitate recovery and salvage of disabled vehicles of all kinds.*

violently or remaining in bed. The food was ample, however.

On December 6th a major of the General Staff questioned me for a few minutes, seeking generally to learn the reason for my being in North Africa and the unit with which I was serving when captured.

Upon declaration of war, December 11th, Mr. Denny and I were allowed to share the same room. Upon his departure for Berlin a week later, I was permitted to exercise in front of the barracks under the direct supervision of a guard.

Between November 25th and May 12th I had the opportunity to meet at least a half dozen soldiers who had been born in the United States and had temporarily returned to Italy for various reasons. They had been inducted into the Italian military service against their wills, and now were "marking time," waiting for the war to end. Practically all expressed themselves in violent terms toward the Italian Government. All gave the impression of low combat value.

#### DECEMBER 31, 1941 - MAY 12, 1942

On the last day of the year I was transferred to the PW camp at Sulmona. The train was crowded, as were also the others seen in the Rome station. The people I was able to observe traveling were adequately dressed for the cold weather.

This camp contained about 200 officer prisoners and around 2,000 soldiers. The officers were from South Africa, Canada, New Zealand, Australia, Rhodesia, Free France, and Great Britain, and included personnel from

the Army, Navy, and Air Forces; ranks ranged from Lt. Col. to 2nd Lt. Later the officers were segregated from the men, and Sulmona is now occupied by Australians.

Here we were supplied with about 1,400 calories of food per day, whereas the doctors (prisoners) estimated that 2,000 were essential. For the first three months the weather was very cold and the wood allowance sufficient to heat our rooms only during the period from 5 PM to 9 PM. On one occasion, in reply to a semi-official query, the Italian officer in charge of the compound inferred that Italy could not withstand another winter.

Initially it was possible to buy a very limited amount of food at the canteen, but sales were discontinued about the middle of April. Tobacco was restricted to 50 grams or less per week. At first clothing was obtainable from the canteen in small amounts, but it was expensive: pajamas cost 175 lire, a shirt 90, and even a bath towel cost 40.

The guards, who circulated within the camp as well as formed a cordon around it, were with some notable

exceptions of inferior quality. Many were old, some quite small (only five feet tall). Clothing, arms, and equipment were in a disgraceful condition. Uniforms were dirty and frayed at collars and cuffs, shoes rarely were polished, and face whiskers were the rule rather than the exception.

In general, the NCO's were dressed better than the privates. Officers usually wore clothing of good quality and of our standard of appearance. With one exception they appeared to be a friendly lot, making no effort to impose undue hardships on the prisoners.

About the first of May the camp was visited by two German officers who were seeking candidates for the Skoda works; no one volunteered. Next day it was announced that prisoners would be employed on non-war work in Italy, on farms and on electrical developments. Net results of this visit are unknown.

Shortly afterward I went to Lisbon, returning from there on the *Drottningholm* with the first exchange of nationals early in June.

## PERSONAL EXPERIENCES

By Major James Tasker

In recounting my experiences of the battles in and about Sidi Rezegh I think I must have used the following phrase quite a few times—that is, "How many of us came through without a single scratch is beyond my imagination." We were dive bombed, machine gunned from the air and the ground, we dodged antitank shells, high explosive mortar bombs, and everything else that modern weapons of war could hurl at us. But here we are and not really very much the worse for these hairraising escapes.

On the afternoon of the 20th, as Brigade Intelligence Officer, I was suddenly catapulted on orders from my Brigadier, from a very comfortable desert car into a decidedly hard and knobby armored one. My orders were to contact the Brigadier of a British Armored Brigade about 36 miles northwest of our present position, tell him that the South Africans were on their way, and learn what I could of the layout of the land there. Simple enough!

I could only grab my overcoat, water bottle, compass, and binoculars, and we were off. There were three armored cars in the party and we hadn't gone more than a mile when, without warning, we were dive bombed and

machine gunned by nine Stukas, which attacked us out of the setting sun—a favorite trick of theirs. It was rather a close thing, as the bombs fell between the cars and the bullets splattered the first car, severing its pennant mast at the base. The trip promised well! We saw one plane come down in flames, which was some compensation for the fright.

Just as darkness was settling down we ran into a column of vehicles and had hastily to make ourselves known, as we saw antitank guns being trained on us. Friends, fortunately, but they were not too sure of us. We produced our identification cards and were allowed to proceed.

In the complete darkness it was much more difficult, however, and time and again we crept up to camps on foot until within earshot. It was a queer and exciting experience, and what a relief when we heard a good English voice!

That night, with the sound of distant gunfire as a lullaby, we slept in the cars in the desert. We thought we were far from everybody, but Jerry started his old game of sending up Verey lights from every point of the compass. There were only two cars now: one had been sent back to Brigade to warn them of extremely boggy ground on their morrow's route.

Next morning early we started off and ran right into a British Armored Brigade all right, but not the one we

---

*This Intelligence Officer of the 5th South African Brigade was the sole member of the Staff not killed or rather permanently captured during the period November 18th to 23d, 1941.*

were seeking. We learned that the latter was not expected for some time. That shook us! However, the Brigadier of this Brigade told us that new orders were out and the South Africans were cooperating with him. He very kindly gave the latest situation report and told me how much his Brigade was looking forward to meeting and working with the South Africans.

I've overlooked a rather important point. When we ran into this Brigade we also ran into the start of the battle for Sidi Rezegh. A terrific artillery duel was in progress between our 25-pounders and some long range stuff Jerry had. I could see our tanks moving up all around us to the fray. Formidable looking monsters they were, too. Right ahead was the Sidi Rezegh aerodrome which that morning we had captured together with 18 planes on the ground, which I could see, and the ground staff. Infantry was even then deploying through the wadi to consolidate the position.

We couldn't have been there more than five minutes when Jerry started turning his attention to us. Shells began to whiz around us and simultaneously enemy planes machine gunned us. It was becoming too hot for comfort, so we returned to the Armored Brigade Control Vehicle, which was still out of range.

As far as one could see were columns and columns of British supply vehicles. Suddenly a message came through: "100 enemy tanks attacking from southeast." In an amazingly short time a force of our tanks was sent out to meet them, and the thunder of guns crashed out from that direction. In the meantime all the supply vehicles had careened at full speed from that to a safer area. Hardly had they settled down, however, before they were set on by another party of the enemy. The same answer was made and Jerry found himself faced again by British tanks. The whole time shells were screaming overhead, trying hard to disorganize the transport and to find our own batteries that were doing such damage in the German lines.

Soon the battlefield was a mass of blazing tanks, with battles still going on all around us. Naturally we sustained losses, but Jerry was hit much harder than he ever expected.

I had attempted to send one armored car back to my Brigadier with a message, and it had started off quite gaily. On looking around a few minutes later I saw it just about to enter a tank battle. One could see quite plainly the opposing forces drawn up facing each other, about 1,000 yards apart—rather like a naval engagement, I thought—and blazing away. Two-pound armorpiercing tracers were bouncing over the intervening ground, like fiery tennis balls. Acting umpire was our armored car, quite unconcerned that it might be the center of attraction next. We had to go in and drag him out.

Just before dark that night, we found ourselves at the wrong end of a tank battle with the shells flashing past a

little too close for our liking, so we decided to leager elsewhere. It was impossible for us to return to our Brigade, as this particular area was completely surrounded by enemy tanks. We stayed with the British troops until the next morning, the 22nd.

When we got back we heard that the South Africans had also seen some fun. Planes had attacked them the evening we left, causing a few casualties but losing two planes. On the 21st, Italian tanks had attempted to crash our lines but we had accounted for eight of them. Even as we joined the Brigade, it was moving up to the scene of its great action.

I suppose we advanced a further six miles before information came through from our reconnaissance cars that they had been fired upon by enemy. A halt was made, and preparations made for the attack. The infantry went forward about 1,000 yards, then very accurate machine gun fire pinned them down. At the same time, enemy artillery laid down a fairly heavy barrage. We were unable to make any further progress, as it was difficult to spot the enemy positions. Our artillery came into action shortly afterward, and Jerry didn't have it all his own way. At 12:30, as the midday meal was being served, a large flight of planes was suddenly seen coming toward B Echelon from the rear. For a moment we thought they were our own, until a number of them—Stukas—screamed down on our transport, releasing their bombs and causing a certain amount of damage and a few casualties. Then the whole lot, dive bombers and fighter ME-109's, came on to machine gun Brigade HQ and the rest of us. The machine gunning, while temporarily demoralizing, resulted in practically no casualties. Our small arms fire brought down three aircraft. It is a known fact that the enemy never once attacked the 5th Brigade from the air without losing at least one plane. Desultory fire continued most of the afternoon, and just before dark our men withdrew to a suitable position where they could dig in and consolidate. The night was comparatively quiet, except for spasmodic gunfire and the inevitable Verey lights.

Tanks didn't interfere with us until the next morning, when at about 7:30 an abortive attack was made on our rear. Our guns down there accounted for three and the others withdrew hurriedly, two of them actually making their getaway through our B Echelon lines.

The Brigade Control Vehicle, where I spent the day, was a hive of industry. Messages poured in and out all the time, despatch riders rushed backward and forward, and all the battlefield stragglers looking for their units made it their port of call. Collection and dissemination of information at the most favorable of times is no sinecure, but in the midst of a battle it is chaotic. At about 1:30 in the afternoon a message was sent through from our leading battalion that the enemy were preparing an infantry attack from the north. We had already been informed that in our rear there were about 1,000 enemy

vehicles and a very large number of tanks. Quite a cheerful prospect!

Then came the most terrific artillery barrage that one could ever experience. Shell splinters whirred and whined all over the place, and I saw some horrible sights as I lay next to the telephone outside the control vehicle. The only cover I had were the two rear wheels of the truck—and I used them to advantage.

The barrage continued without abatement, but worse was still to come. A tank battle developed on our left flank and the shells and machine gun bullets covered the Brigade

battalions who were still connected, warned them of this added menace, and then put the receiver down.

In the meantime one German tank officer had captured the Brigadier, who was about 50 yards away, and taken him into his tank. I had seen the Brigadier previously take cover in a tank occupied by a British Liaison Officer, but when the tank moved off the Brigadier, preferring to remain with us, had got out and sat on the ground. As the tanks came round us, somebody drew my attention to the fact that the vehicle above us was on fire. We were in a pretty predicament: fire or the Hun! We decided to take a

chance with the latter, and crawled out from under as a German tank drew up to the truck. Jerry was extremely rude to us and snatched our binoculars and revolvers, cursing us most volubly and gutturally all the time. By various gesticulations and weird sounds, he managed to convey to us that we should run to the prisoners' concentration area. I think we were all very tempted to press the triggers of our revolvers as we handed them over to him, but glancing over our shoulders we saw other tanks covering us with their weapons, and motorcyclists in close support.

We were herded gradually to the other prisoners, although we did attempt to sneak off every now and then. We loitered as much as we could and stopped at the dead and wounded, but eventually found ourselves with other prisoners. I must say the lads were in wonderful spirits and hid what real feelings they must have had.

We three officers had already concluded a pact amongst ourselves to stick together and escape at the first opportunity. While we were waiting, we watched the Germans passing in their vehicles. Their thoroughness must impress one. I know it did me, but at least it didn't depress me. Except for the gentleman who captured us, they seemed a very stolid lot. Their photographers in armored cars — probably Goebbels' men — rushed up and took our photos when they got the chance. I heard on excellent authority from a British officer who was a prisoner of war at the time of the attack on us that before the assault the men were told by their officers that Moscow and Leningrad had fallen. There was great enthusiasm. But it's going to cause Goebbels a headache thinking of the next answer.

Our actual escape is another tale. Enough now to say that seven officers in all did get back to our Division after some very uncomfortable moments. We lost everything except our lives, but we were far from bemoaning the fact.



*Italian battery put out of action by artillery fire and bombing (south of Sidi-Rezegh, November 21, 1941).*

area like hail. The noise was ear-shattering. I think we had all got to the stage where fear was almost forgotten. One couldn't be any more frightened. One just became fatalistic. If you were hit—you were hit, that was all.

A South African major dropped like a stone right next to me. Fortunately it was the force of the bullet knocking his arm which had bowled him over. We dressed the wound as well as we could under the circumstances, and eased him under cover.

I imagine it was four o'clock that afternoon when I happened to peer around the one wheel and saw a number of tanks coming toward me from our B Echelon lines. It was quite a moment before I grasped the fact that they were German tanks and that there was nothing to stop them. I attracted the attention of the Brigade Major and the Brigade Signal Officer, who were with me at the time. We lay doggo, feeling extremely prominent under the vehicle and very conscious of the machine guns pointing in our direction, although I'm sure we hadn't as yet been seen. They circled around us, not more than 20 yards away. I got through as quietly as I could on the 'phone to two of our

# DESERT TANK BATTLE

By Harold Denny

There were nine of us unarmed non-combatants, eight war correspondents and one United States Army military observer, who had gone out to see a tank battle close up, hoping to be the first ever to report at first-hand just how this modern mode of warfare really works. We saw it, certainly, and I believe we were the first ever to see a tank attack come through. In one lurid sequence we were actually between German guns and the British tanks on which they were firing at a range of 200 yards.

My British colleagues, Edward Ward of the British Broadcasting Corporation and G. H. P. Anderson of The Associated Press, and five South African correspondents and broadcasters are still prisoners of war.

The military observer, Lieut. Col. Michael Buckley, Jr., and I reached the United States on the *Drottning-holm*, free, because the United States Government strove persistently, tactfully, and firmly to liberate us.

War correspondents covering an offensive in the Libyan desert have found that they cannot have a clear idea of what happens unless they see it. And that means being in it, for in this war, and especially in the open desert, there is little distinction between front and immediate rear. That involves a certain amount of risk, especially when war in the desert often travels at thirty-five miles an hour, when flying columns rove about a dusty wilderness almost as trackless as the sea, often far behind enemy lines.

Now it is not among the duties of the war correspondent of a serious newspaper or news gathering agency to show how brave he is. Reporters of a certain type of publication, hardly known in America, consider it news to write, "I stood on the parapet while enemy shot and shell burst around me and, suffering Napoleon, but was I brave!"

My own motto in war correspondence has always been "A dead correspondent sends no dispatches." If a correspondent unnecessarily gets himself killed or captured or badly wounded he is not only being plain silly, but also is letting down his news organization.

Ward, Anderson, and I traveled as a self-contained party, carrying our own rations and water, in British army trucks with British army drivers. We met at the headquarters of a British armored division, far out in the desert. To prepare for the offensive we smelled in the offing I had lived for a time in the desert headquarters of the British unit using American tanks—the first American-

made tanks ever to taste battle.

I know no pleasanter place to dine than in the officers' mess of a fighting unit in the field. The British, who so often put the wrong foot forward with people of other nationalities who do not understand them and who mistake their shyness for arrogance, are at their best there. They immediately accept the correspondent as one of themselves and freely talk war shop with them.

Such a mess is ingeniously set up against the side of a big mess truck. When camp is pitched a tent structure is erected against one side of the truck, folding chairs and tables are arranged within it, and there is your dining room. The amenities are observed. When the general enters, all officers rise momentarily until he seats himself in the place of honor, and then all becomes informal. The conversation is like that in a good London club.

## NO HEROICS BEFORE BATTLE

On the eve of battle there was a "Journey's End" flavor to our dinner that night. Death comes swiftly in tank combat and every one knew that some in that pleasant group would soon die. And no heroics. An English officer would rather be caught robbing his grandmother's grave than being heroic.

I shall always remember the young tank officer who sat across from me that evening. He had used his spare time in the unit's first camp near Cairo to study Egyptian archaeology and talked interestingly of the parent of the Greek column that he had noticed in certain Egyptian temples. I never saw him again.

Ward, Anderson, and I, tagging along after the divisional commander on a tour of forward elements after the tank fighting had begun, reached a South African Infantry Brigade on the morning of Nov. 22 in a field strewn with blackened German, Italian and British tanks.

One element of the brigade was then heavily engaged in an attack that it finally had to break off. As we watched the action, forty-five Stukas came over from behind, swooped down to within fifty or 100 feet of the ground, tilting from side to side, their machine guns ripping. As we flung ourselves on the ground bullets spattered among us and one went through a fold of my trouser leg.

The German who fired it was shot down, his plane exploding as it struck the next instant. Two others were shot down a moment later.

That evening we encountered the five South African correspondents and learned that this unit probably would be moved up to the relief of Tobruk. So we stayed behind for what should have been a great story when the general returned to his headquarters at first light next day.

---

*This correspondent for the New York Times was, save for his visit with the Berlin Gestapo, Col. Buckley's cellmate during their Italian captivity. His article is republished from the Times.*

## GERMANS ATTACK EARLY

Just after a dawn breakfast the Germans attacked the brigade, beginning with a holding attack from in front. Marshal Rommel habitually attacks from the east in the morning, to have the sun in his enemy's eyes, and from the west in the afternoon, and so he did that day.

Presently fighting broke out on the left flank, whither British tanks had gone in support of the infantry. We could dimly see lines of tanks moving like ships at sea, flashing fire through the dust-clouds as they tilted at each other.

The fighting gradually worked around to our left rear and we began to suspect that we were cut off. Toward noon the brigade commander returned from a reconnoitering trip with confirmation. He had been ambushed near Rezegh and had raced back in a hail of fire which riddled the back of his car.

We correspondents decided that our only course was to stay where we were, with protecting troops about us. At midday, while Marshal Rommel took off his tanks to refuel and restock his ammunition, we cooked a good hot meal—the last we were to have for many days. Then we dug slit trenches in the sand.

The Germans renewed the attack at 3 PM from the rear, again with the sun behind them. Marshal Rommel had brought his main body of 80 to 100 tanks to within about 1,000 yards of the rear side of the rough oblong the brigade occupied, where they lay hull down behind a low fold in the ground.

## TANKS 20 YARDS APART

As nearly as we could see, they were deployed in a line at intervals of about twenty yards. Behind them was artillery, including 75-mm. field guns and 105-mm. howitzers. Behind them also lay the infantry, who had arrived in carrier cars, waiting to come in and mop up after the tanks and artillery had crushed the British opposition.

The German tanks also were armed with 50- and 75-millimeter cannon, heavily out-gunning the lighter-armed British and American made tanks, which gave the Germans, tank for tank, a substantial advantage. German tanks and German artillery laid down a brisk barrage. Their shells were so fused that they ricocheted off the ground and burst over our heads.

The British artillery, which had hurried from place to place all morning to meet the shifting attack, pulled out once more and raced to the rear to face the Germans. There was no time to dig in, and in that ground, where impenetrable rock lay just below the sand, digging in was hopeless.

Nor was there nearly enough artillery to meet such an attack. At the same time the tanks' machine guns swept the brigade oblong with a blanket of fire which dwarfed even the machine gun fire of the Argonne in the last war.

Meanwhile the rumor spread from slit trench to slit trench that the New Zealanders were coming up, accompanied by heavy tanks. But, as we learned later, the New Zealanders were having their own trouble and could not come to our help.

The courage of the British in the face of this overwhelming attack was beyond praise. Their exposed gunners fought their pieces until they or their guns or both were destroyed. One young lieutenant commanding a mortar battery, of which only one gun remained serviceable, his arm torn off by a German shell, ordered his men to their slit trenches, shouting: "I'm finished. Clear out of here, all of you. I'll serve the gun." He continued to fire until another shell killed him.

British guns, struck directly by German shells, fell useless on their sides in a cloud of dust. The crews of others were mowed down by machine gun fire. Toward the last the British artillery ammunition gave out and at the very end gun crews were firing star shells and smoke shells—anything to make a noise.

We correspondents could catch only occasional glimpses of this, for we dared raise our heads only at long intervals for a quick peek. The German machine gun fire was so intense and so low that the bullets seemed to weave a roof over our heads, and now and then one pinged into the side of the trench. Shells bursting near peppered us with dust and pebbles.

At about 4:30 the firing suddenly slackened. We heard some one shout: "Those are German tanks." We half sat up and looked out, and there, marching through from the rear, came the tanks in a sort of flying wedge.

They were twenty or thirty yards apart and looked like a war poster of a tank attack. They were no longer firing, but from the open turret of each an officer looked out, watching all around him for any sign of opposition, a pistol or a tommy-gun ready in his hand.

Two or three South African infantrymen gave their lives by tossing grenades into these open tops, for they were instantly shot. But they knocked out at least two tanks. But for the most part the tanks had their own way.

One tank bore down on an Irish Catholic chaplain who was reading the burial service over a dead South African Negro. The chaplain motioned the tank to stop, but it came on and he jumped down into the grave with the dead man while the tank passed over him. "Glory to God, it was terrible," he said describing it later.

One South African officer, as we learned later, found himself looking into a pistol held by a German officer with whom he had attended Cape Town University.

"I'm glad you're out of this alive," the German said as he recognized him and motioned him to the rear.

Three tanks rolled serenely in on our own little group. On top of each was a large red bunting, with a black swastika in a white circle, to identify it to its own aircraft. One of them straddled Anderson's slit trench, a few feet to my right, and passed harmlessly over him.

Its left-hand tread crushed the side of my trench in on me.

We sat up, our hands in the air. The tank stopped and its commander motioned us to the rear with his pistol. A few yards further back an officer leaning out of the top of an armored car signaled to us to do double time.

As we trotted, holding our hands awkwardly in the air and feeling more silly than frightened, we passed bodies sprawled over the edge of trenches and wounded men being helped along by their comrades. A long row of dead men lay where the field hospital had been.

Meanwhile, further forward and out of our view, the brigade staff, including the general, was being captured by three other tanks. With them was Colonel Buckley. Like the other survivors, they had been driven into slit trenches.

The tanks bore down in a little V formation, and to their left marched four more, almost hub to hub. As the South African brigade commander stood up the commander of the leading tank recognized him as a senior staff officer and motioned him to get on the tank. He had no choice but to do so.

Some British cannon and machine guns were still in action, firing on the tank. The brigadier had to clamber around from side to side of the turret to avoid being killed by his own guns. One antitank projectile struck the turret near his head. The German tank seemed to him to grunt, stop an instant, then march on.

The other officers were rounded up and herded with the rest of us toward the rear. A handful managed to escape, including the brigade major. But except for these the brigade had been entirely destroyed.

## AS HEADQUARTERS SAW IT

By Alexander Clifford

In the morning we got the bare news of what had happened the night before, though it was days before I could fill in all the details. The brief fact was that the Fifth South African Brigade had been completely disintegrated.

All Saturday the Fifth had fought at Sidi Rezegh. On Sunday morning three German tanks broke into the rear of the brigade where the supply vehicles were dispersed, and began shooting their way clean through the camp. Two were knocked out, but the third got away. That was the beginning of a whole series of attacks from almost every point of the compass which the South Africans had to beat off as Sunday wore on.

The big German attack came quite suddenly in the afternoon after a very heavy artillery bombardment. A tidal wave of tanks swept into the brigade. They came on seven abreast and ten deep, shooting as they came. The antitank gunners used up every round they had and then stood helpless. Right past brigade headquarters the enemy thundered, picking up the Brigadier as a prisoner on the way. Helpless, bewildered riflemen were herded like cattle before the oncoming tanks. Staff officers took refuge under

the A.C.V. until an incendiary shell set it on fire. Then they too were captured.

The Germans were already rounding up the prisoners when tanks from our 22nd Brigade came to the rescue. As they stormed into the camp utter confusion broke out again. The Germans dived for the South Africans' slit trenches. The South Africans made a concerted break for freedom. For a few minutes it looked as though the tables might be turned. But the British tanks were too few, and toward dusk the Germans got the upper hand again.

Groups of South Africans were still managing to escape. Individuals were lingering behind on the plea of succouring their wounded or some other excuse, and then making a dash for it. The Brigade Major got away like this, and in the course of a nine-mile hike to safety he had to lie in a slit trench while a German tank went clean over him.

All that night and all next day by ones and twos members of the Fifth were turning up at other units. But the brigade could not be said to exist any more. When all heads were counted it was found that the total casualties, including prisoners and missing, were just over 3,800. The prisoners included Ward, Anderson, Denny, and five South African war correspondents.

---

*From Crusader, forthcoming book by the Cairo correspondent for the London Daily Mail.*

---

Only knowledge that is used will stick with you. We learn by doing. So if you would assist these young men to master the principles of leadership—do something about it.

W. N. D.

# DESERT VICTORY

## The 1st South African Brigade, November, 1941

By Its Then Commander

Our corps crossed the wire on the 18th of November. My Brigade was operating in support of an Armored Division. We moved to the El Gubi area on the 19th and remained in that general area until night of the 22nd. During this period the Ariete Armored Division was right up against my Brigade, but I kept them under artillery fire observed from my mobile OP's and they did no more than demonstrate. During the night 22/23 November I received orders to move to Tobruk. I disengaged by detail, reformed in our block formation covered by armored cars, moved 8 miles due east of Bir el Gubi, and then turned and moved north.

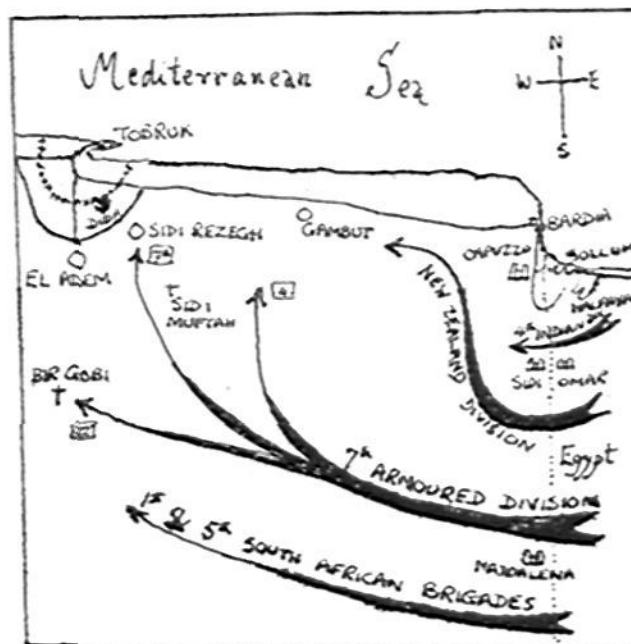
At 0700 hours on the 23d my armored car screen reported heavy armored forces about 5 miles north. I pushed forward a "Hard Hitting Packet" (4 2-pdr. guns portee, 4 Vickers .303 MG's in carriers, and 2 3" mortars in carriers) to assist the armored car screen to cover me, and moved the Brigade forward to a favorable position in which to receive an attack. The advance group met the enemy and fought a rear guard action back to the perimeter, into which they moved in their assigned positions. All the while this was going on my artillery, controlled by the mobile OP's, kept the advancing tanks under fire. In my Brigade I have made 6 armored cars into mobile observation posts, with wireless sets which can contact the artillery HQ, and have artillery observers in each. With these mobile OP's the enemy tanks can't get away from effective artillery fire, for the mobile OP's go where necessary to observe the fire. I have never yet been

---

*This Brigadier, who commanded artillery in Palestine 25 years ago, has the spirit of a true artilleryman. He handled his pieces boldly and never had too many of them. In fact, he admits he never had enough.*

*Guns and howitzers of all makes, sizes, and descriptions were to be found in his artillery units. Whenever usable weapons were found in the desert he added them to his collection. It made no difference what the make or nationality, his gunners could handle them if they had ammunition to fire, so it was picked up from any source possible. His earned successes have won him promotion to Major General.*

*Doubtless there have been changes in organization and armament in the ten months since the events so ably described, but the principles shown so clearly are timeless and true regardless of such details.*



How the Eighth Army attacked November 18

without observed fire, even during the hardest engagements. These cars work around the flanks, and as a result the enemy can't refuel or form up within range of the artillery without bringing down effective fire on himself. The armored cars are not afraid of the tanks; they can always out-run them.

Some time after the advance screen joined the perimeter we received a minor tank attack from the northeast. We beat this off, burning out 4 tanks. One, however, got in so close that he was captured by an officer of the Transvaal Scottish who charged it in an 800-weight truck with a sticky-bomb. The crew surrendered and he brought the tank in to Brigade HQ, crew and all. We had no more tank attacks that day, but continued artillery shelling.

### FIRST INCIDENT

During the night of 23/24 November I received orders to withdraw 7 or 8 miles to the south and establish a defended perimeter. However, stragglers of the 5th Brigade commenced drifting back so I waited until first light and sent out armored car patrols to bring as many in as they could find. At 0730 hours I commenced moving



south, and at 0900 hours my leading unit arrived in the designated area. We found much miscellaneous transport in the area which had to be moved before we could establish our perimeter. This was the day, 24 November, of the big break-through in the south, and there was considerable confusion.

The Brigade remained in position all day and was engaged by the 21st Armored Division, and on the night of 24/25 November they encircled the entire perimeter. The attack began in earnest at 0700 hours of the 25th, with artillery fire from two medium batteries, one to the east and the other to the northeast of us.

The armored cars, which had withdrawn into the perimeter at dark, were out again at first light (0615 hours), and they soon reported armored formations in strength to the northeast and also to the south of the perimeter. At that time I knew that the Italian armored forces were in the Bir el Gubi area 6 to 7 miles west of us, also other mobile troops, but no German tanks.

By 0730 hours the medium batteries were augmented by three field batteries firing from positions to the north, east, and southeast.

The first heavy attack, approximately 60 tanks supported by motorized infantry and heavy mortars, came from the east. This force included a number of heavy tanks, the German Mark IV, which fire everything they have as they move—and they make quite a show as they come in.

The attack was made in two waves on a front of about 1,000 yards, light tanks forward and the heavier ones in the second wave. It lasted exactly one hour, and after failing to penetrate the perimeter in a number of places and suffering heavy losses, the tanks withdrew and reformed to the north. During the attack enemy artillery fire was intensified and our artillery answered them, firing primarily on armor.

But we managed to spare some guns for the soft column which always functions close in rear of the armored columns.

A second and heavier attack was launched from the north at 1000 hours. The violence of this attack was such that I feared for about a half an hour they would penetrate the perimeter. The ground attack was intensified by air bombing. This Brigade was attacked by dive bombers and fighters during the early morning from November 19th to December 6th and by two or three large formation attacks during the day, but dispersion and slit trenches made air attack comparatively ineffectual against personnel. However, we did have 145 vehicles burned out during this period, the majority by the air. This Brigade digs slit trenches whenever it halts, if even for an hour, and our vehicles are always dispersed by at least 200 yards. You know a slit trench for a temporary halt need be just deep enough that the body of the man is just below the surface of the ground.

The attack slowed down at 1030 hours, when the remaining tanks moved widely around to the west, still constantly under our artillery fire. During this movement smoke screens were laid by the tanks themselves in an effort to screen their movements, but in this they did not succeed, as our mobile OP's moved around the screen and kept them under observed fire.

It appeared as if a third attack was imminent, but before this could be launched the Brigadier of an Armored Brigade arrived with 40 American Honey Tanks (little ones). These were not sufficient in number or sufficiently armored or armed to counterattack the numerically superior and more heavily armored German tanks, and it was therefore decided that should a third attack materialize his brigade would counterattack into their flank. This third attack did not materialize, due to the welcome reinforcement of the American tanks.

It is my fixed opinion that had I these 40 Honey tanks under my command at the beginning of the show I would have annihilated the 21st Division. I could have given the tanks a base, and had the Germans attacked me as they did, our tank commander having greater speed could have hit them in the flank or rear and destroyed their soft supply columns. If they withdrew he could have delayed them while I brought up my Brigade to effective artillery range.

The artillery battle continued all the rest of the day. Toward sunset the enemy's soft columns (motorized infantry and supply units), approximately 2,000 vehicles which were well within gun range, started withdrawing with our artillery continually shelling them until they moved out of range. During the withdrawal the Germans interposed their tanks between their soft columns and ourselves. I definitely feel that had we supplies (fuel and ammunition) there is no doubt that we could have maintained contact with this retreating column and put very heavy casualties upon it and perhaps destroyed it.



The battle of El Duda.



*South Africans HABITUALLY dig themselves in. Here a German mortar's fire comes unpleasantly near—note the flying debris.*

Note. This Brigade was separated from its Q and supply service due to the withdrawal southward of the British Division, Corps, and Army Headquarters, and rear echelon supply units, which was caused by Rommel's southward drive.

During the night of the 24th/25th all German tank casualties, of which there were a large number, were pulled out by the German recovery service.

#### SECOND INCIDENT

On the night of 30 November/1 December the 1st Brigade was on the escarpment south of Tobruk, and was ordered to attack a strongly held position with enemy tanks in the vicinity. Visibility was good, as it was nearly full moon, and I feared a counterattack by tanks. To guard against this possibility I attached a troop of 2-pounder antitank guns (4) to each battalion in the attack. During our attack the Germans did counterattack with tanks followed by infantry. The tanks succeeded in pushing home this counterattack and in getting among the infantry of the 1st Battalion, but were comparatively easily dealt with by the 2-pounders, which set 3 alight, one at 10 yards' range, and damaged many others. The tanks withdrew and the supporting enemy infantry suffered heavy casualties.

During this counterattack the battalion concerned lost 6 killed and 22 wounded. This in my opinion is an

unbelievably low figure when the amount of fire and the nature of the counterattack are considered. This night engagement resulted in stalemate, but I consider it a victory for the 1st Brigade, for we kept the gap open through which the New Zealand Division withdrew during the night of 1/2 December.

#### THIRD INCIDENT

On another occasion an isolated post consisting of 2 companies of infantry, 2 troops of 2-pounders, and 1 troop of field guns, all from the 1st Brigade, were in a defended position which was attacked by moonlight by enemy tanks supported by 100 lorries of motorized infantry. On this occasion the infantry and the guns were in a defended perimeter and properly dug in. At no time did the enemy succeed in penetrating the perimeter, although he made every effort to do so, and the attacks were repulsed with a loss of 2 tanks burned out. This Brigade or parts of it have been attacked five times by tanks, and at no time have tanks gotten into

my infantry except during the night attack of which I have told you when the infantry was attacking away from our field guns.

In commenting on our experiences it is my opinion that an infantry brigade, organized as is the 1st Brigade, with antitank guns and field artillery and a force of armored cars, can repel even a heavy armored attack providing the organization has warning of such an attack. It is my belief that with an hour's warning, which will permit us to dig in sufficiently to be protected against shell splinters, I can stand off any armored attack. My armored cars, reinforced by one or more "hard-hitting packets," have always been able to afford me sufficient warning and to provide sufficient delay that we are always ready for them. You must remember that I always have advancing tank columns under 25-pdr. fire from their extreme range, and that it is *observed* fire.

I do not believe that it would be possible to stand off an armored attack, no matter what artillery is present with the organization, if mobile OP's are not available and properly used, for visibility in the desert is never greater than 2,000 yards—and if you can not keep armored forces and their artillery under constant observed fire at the longer ranges, you will certainly be over-run. I believe that my brigade is too strong in infantry for this type of operation, for against armored forces it is fire

power of effective antitank weapons controlled from mobile OP's which wins battles, and not infantry.

#### SUMMARY

To sum it up:

We dig in when we stop. I do not care how many unused holes we leave behind, but I never want to lose a man for lack of a hole dug.

The officers and men of my Brigade know that they must never park one vehicle closer than 200 yards to another vehicle.

We in the 1st Brigade have a compact and yet dispersed formation with equal antitank power distributed around the four sides of the perimeter. The Brigade travels in this formation, and in daytime rests in this formation, with armored car patrols around us at not more than 5 miles. In rear of the armored car screen we have armored car OP's which are in wireless contact with the artillery HQ. We have three self-contained "hard-hitting packets" in our organization which can be dispatched to support the armored car screen at any needed point.

It is well understood within the Brigade that should armored forces succeed in penetrating our perimeter, all antitank and artillery guns will take this force under fire without regard for intervening personnel or our own vehicles. In addition, each man has a sticky bomb with him in his slit trench which should be effective at such close range.

The ammunition supply for 25-pounders and antitank guns at present carried in the Brigade is too small by about half. During the night of 24/25 November, had not one of my officers gone out in one of the little American cars (Bantams) and found and brought in through the German forces 8 lorries of 25-pounder ammunition, we surely would have been over-run the next day. It was a close thing, for we had not prepared ourselves against the possibility of being cut off from our ammunition supply.

While I am talking about supply, it is my opinion that there should be at least 7 days' rations and water carried in the Brigade while engaged in this type of service.

I want to tell you something about our communications. The South African Divisions are equipped with an American radio. Besides the larger sets in my main echelons, we have smaller sets in each armored

car. These sets are the best radios in the Middle East. We have had ours with us through 17 months of hard service in Northern Kenya, Somaliland, Eritrea, Abyssinia, and the Western Desert, and I can say that I have never been without communication.

Our armored cars are Ford V-8 motors on a Ford chassis; the superstructures we build and install in the Union. The only thing wrong about them is their armament, which is too light. They carry universal mounting for a Vickers or a Bren gun, a Boys antitank rifle, and a tommy gun. I have some very definite ideas about armored cars. They are the commander's eyes and ears and are essential in modern war. Our present South African organization gives the Brigade a reconnaissance company with a lot of these cars, and you need all of them in the desert. As you know, I have converted 6 of mine into mobile OP's to work with the artillery.

My ideal armored car would be one that had our present speed and mobility, armor capable of turning the fire from tank secondary weapons, and a weapon which would pierce tank armor at 1,000 yards, plus anti-personnel weapons, of course. A 2-pounder or a 37-mm. gun in each of our armored cars would make them many times more effective. My experience has been that a shell penetrating light armor goes on through with no damage to anyone not in its path, but when heavy armor is penetrated a great deal of damage is done to personnel within the vehicle and to the vehicle itself. I even think a few heavy armored cars in the Brigade reconnaissance company would be an advantage.

*This German AT gun at Sidi Omar was in a characteristically narrow, zig-zag trench with unmortared stone revetment. Almost complete absence of parapet makes discovery from the ground very difficult. Overhead cover seems entirely lacking; in such case, the inevitable litter about a position (ammunition boxes, empty casings, discarded paper, etc.) must be kept to a minimum to prevent discovery from the air.*





# British

*This little AT gun appears to be a 2-cm. Solothurn weapon similar to those formerly used by the Hungarians and the Dutch. The wheeled mount, however, is a recent addition.*



*Pz. Kw. I tanks have five spoked bogie wheels on either side (the last four being connected by an outside girder) and four track support rollers. Two light machine guns are mounted coaxially in the turret, which has a rounded back, is on the right side of the tank, and has a very low silhouette. A similar vehicle is used as a commander's tank, in which case the hull is built up to form a square, fixed turret (with only one MG) which in turn carries a square cupola. V-8 engines, acting through the front sprockets, drive these tanks up to 32 mph on roads, with a 95-mile radius of action.*

# Booty



*50-mm. antitank guns were issued to the main units of the German Army in the spring of 1941; they are rapidly replacing the older 37's. The carriage has an armor plate shield, muzzle brake, and tubular split trail. Gun (without carriage) weighs 650 lbs., and fires a solid projectile weighing about 4½ lbs. Note the shield's double construction.*



*The dual purpose machine gun (MG-34) is now in general use throughout the German Army, replacing both light and heavy models. 7.9-mm. in bore, it weighs only 15½ pounds without mount. Its cyclic rate is 900 rounds per minute, but in practice the maximum rate on bipod is 110-120, on tripod 300-350. The air-cooled barrel must be changed after firing 500 rounds continuously. Metal cartridge belts are extremely flexible, and consist of 10 strips holding 25 each; these parts disconnect when the coupling cartridge is fired. Range: on bipod, 2,200 yards; on tripod and using telescopic sights: 3,800 yards.*

# Has Field Artillery Learned to Protect Itself?

[Extracted from "Reflections on the Campaign in France," by Capt. Ed. Bauer, in *Revue Militaire Suisse*, August, 1941.]

The French artillery corresponded rather exactly to the pre-war concept of the army general staff. At its base was the famous 75-mm. gun, assigned in the proportion of one regiment having three battalions of three batteries, that is thirty-six pieces, per division; as divisional medium artillery, one regiment with two battalions of three batteries, that is, twenty-four pieces, of 155-mm. Schneider howitzers. The latter, with their 95-pound shells, were one of the most feared of weapons. The army corps had, as organic allotment, a long-range heavy artillery regiment with four battalions: two battalions of model 1913 105 - mm. guns, and two battalions of 155-mm. guns, either of the 1917 model or the GPF model.

In the army, the group of armies, and the general artillery reserve, was to be found a numerous array of short and long guns, motorized or mounted on railway carriages, running from the 145-mm. gun produced in the navy to the 520-mm. howitzer; among them we wish to point out an excellent 220-mm. gun with a range beyond 20 km., and we wish to mention, by way of curiosity, a heavy railway artillery gun of 210-mm., firing a 240-lb. shell a distance of 20-km. We do not know, in this connection, whether this French re-edition of the "Big Bertha" had an opportunity to fire a single shell. The French artillery according to Passow,<sup>1</sup> thus included about forty models and a range of twenty-four calibers which must have raised quite delicate problems of tools and manufacture in industry. The Germans, in every case, contented themselves with a much more restricted number of types and calibres.

Be that as it may, it is certain that the French artillery was beginning to be obsolescent, in contrast with its rival, who, by reason of the 1918 defeat and the disarmament which followed, was encumbered with no materiel whatever dating from the other war. The excellent 75-mm. gun, particularly, after forty years of good and loyal service, should have been, if not replaced, at least seriously

<sup>1</sup>Kurt Passow: *Taschenbuch der Heere*, 1939, Lehmann's Verlag, Munich-Berlin.

rejuvenated. In the cause of the battle with France, serviced by fearless gunmen, and particularly in the combats which marked the defense of the Weygand line, it behaved admirably well as an antitank weapon, in spite of its small traverse. We shall confine ourselves to three examples in support of this assertion: in one afternoon, the First Battalion, 72d Artillery (Commandant Pouyat) destroyed thirty-eight tanks in the Hornoy region, half of them by Captain Vandelle's battery;<sup>2</sup> in Warlus Wood, on June 5, 1940, two battalions of the 21st Madagascar Colonial Artillery regiment shattered forty-five enemy tanks;<sup>3</sup> while

ten days later, during retreat, 67-mm. guns of the 1st Colonial Regiment brought sixteen to their doom.<sup>4</sup> From this, one may rightfully wonder of what exploits this veteran gun might not still have been capable, if it had been intelligently modernized, in particular provided with an automatic breech and placed upon a split-trail carriage which would have increased its horizontal field of fire from 6° to approximately 45°.

Perhaps the French hesitated because of the expense of such a transformation, considering that the Germans were arming the *Wehrmacht* divisions with a 105-mm. howitzer to serve as a field piece, and that it was advisable to abandon the 75-mm. gun. As a matter of fact, at the military review of July 14, 1939, a new 105-mm. short howitzer proceeded triumphantly down the avenue of the Champs-Élysées. This model 1935, manufactured by Creusot, seems to have done honor to the reputation of the Schneider firm. Somewhat lighter than the German howitzer, it threw a 33-lb. projectile somewhat farther than the latter. Possessing a wide horizontal field of fire (58°), thanks to the split-trail mounting, it offered to its crew the appreciable supplementary protection

<sup>2</sup>A. P. Antoine: *Memorial de France*. Published by Sequana, Paris, 1940, 1 volume in decimosexto, pages 138-142.

<sup>3</sup>Captain G. Bonnet: *Memorial de l'Empire*. Published by Sequana, Paris, 1941, 1 volume in decimosexto, page 55.

<sup>4</sup>*Ibid.*, page 157.

of its unfolding wheels. But, like its younger brother, the 47-mm. antitank gun, this successful piece of materiel appeared never or nearly never on the field of battle. "Which one of you has seen the bipolar 105-mm. guns?" Mr. Maurice Betz had one of his questioners ask. "You, Rolland, who were at Givet? You, Verdon, at Sedan? You, Bellanger, Bourget, at Forbach, at Charleroi, at Namur? You, the men of Blanchard's army?" And in reply, only one of them was able to state that during the retreat in the month of June, he had seen one battery of them with his own eyes, near Neufgrange in Lorraine.

Against the German 10.5-cm. guns, in the absence of an equivalent piece of equipment, it is clear that the 75-mm. French gun was to find itself in a decidedly inferior position. The former fired a 33-lb. shell along a curved trajectory; the latter fired a 17-lb. shell along a flat trajectory. Its enemy could therefore harass it from battery

positions which it would be incapable of approaching for retaliation. Nevertheless, the French gun made up this disadvantage to a certain extent by the superiority of its performance: eight rounds per minute as compared with six. But it was not the superiority of the 105-mm. howitzer which won the war. Then we ask what caused the downfall of the famous French artillery? The answer is deficiency in antiaircraft guns, the poverty of antitank equipment as well as the low grade of the individual armament of cannoneers and drivers—all these were destined to ruin all the hopes which had been built up in the GHQ in Vincennes on the superiority of personnel and the imposing mass of the French artillery.

Not only were the French batteries pitilessly hammered by the Stukas and machine-gunned at close range by the tanks without being able to answer in kind. Also many guns that had held off the armored drive of the panzer

divisions and had inflicted bloody losses on them were finally abandoned on the battlefield, after having been put out of commission by their gunners. The latter were insane with rage and grief, because at the instant of one of the innumerable moves of that disastrous campaign, they no longer found, in harness position, anything but the corpses of horses and drivers. In this respect, the experiences of 1940 have added new arguments for motorization of the artillery. In fact, it would have been easier for the French to protect from the aerial danger the 500 automobiles of

their motorized divisional artillery than the 3,285 horses of their horse-drawn artillery.<sup>5</sup> And automobiles are not skittish under the terrific detonations of aerial bombs and the roar of the Stukas. And it is easier to repair a truck than to give first aid to a horse.

*At the time of the second phase of the campaign, nearly two-thirds of the French divisional artillery was set up for antitank defense. We have already said that this tactical step, imposed by the*

imperious necessities of the situation, eliminated the principle of combined action to which the high command doctrine adhered so firmly, in which troops and officer staffs had been instructed and trained, whereas the enemy artillery retained its full liberty of employment. On the other hand, with its six 47-mm. or 75-mm. guns, the divisional antitank battery was to show itself absolutely incapable of assuming the close-range defense of the two artillery regiments—sixty pieces—which should have devolved upon it. The field guns, as we have just seen, were of remarkable effect against enemy tanks, but, most of the time, at the price of their total sacrifice. Here would have been an opportunity to ask in useful time the famous question from the Bible

<sup>5</sup>These figures are applicable to the fifteen batteries of 7.5-cm. and 15.5-cm. guns of the divisional artillery. We estimate from one source or another, about a hundred liaison vehicles.



*The Model 1935 French 105-mm. howitzer which would have been fine if it had been available in quantity in 1940.*

which Jacques Bainville liked to quote: *Quis custodes autem custodiet?* (Who shall guard the guards themselves?)

Finally with rifles that were too scarce, a couple of model 15 heavy machine guns and four machine guns in the artillery battalion, the French batteries, regardless of the devotion of the gunners and drivers, were hardly in a position to repulse by their own means those driving infiltrations of motorcyclists, machine-gunners and porte riflemen, powerfully armed with light machine guns, machine rifles and grenade throwers, which characterized the German offensives of this campaign. Many French artillerymen, for lack of an adequate weapon of small caliber, served by instructed personnel, were thus obliged to suffer the fate of that unfortunate 155-mm. howitzer battery of the 170th regiment, taken on June 17, 1940, between Doubs and Pontarlier, by three armored cars and fifty motorcyclists.

Such was the fate of the French artillery, which, in truth, deserved something better than this disgrace. This fate was not unforeseeable, and, more than that, as to the aerial danger at least, it had been described in full detail by Mr. Camille Rougeron. In his *Aerial Teachings from the War in Spain*, the author predicted it as follows:

"In position, the artillery is one of the most vulnerable objectives of aerial attack. The personnel must work in the

open, under conditions in which the risk is quite different from that run by the scattered and sheltered infantrymen. The materiel is quite sensitive to the average bomb. The aeroplane can choose between this bomb, which destroys the materiel if the crew shelter themselves, and the light bomb, the explosive projectile of small caliber, or the machine-gun bullet, if the crew persists at their guns.

"The scorn which the artillery displays for anything that might contribute to the reduction of the direct aerial threat reaches a truly extraordinary degree, the like of which, we believe, will not be found elsewhere.

"Where the infantry would hesitate to place side by side four machine guns and their crews, the artillery has no doubt about the necessity of aligning the four guns of a battery and a store of ammunition, the cost of which, for certain calibers, may reach several millions. This, it is obvious, facilitates the functioning of the enemy command and obviates parallax calculations. The aeroplane attacking this alignment with the machine gun and the bomb will find the same advantages as the counterbattery undertaking its neutralization or destruction. Four years of war did not succeed in inculcating into the artillery the need for more dispersion. Perhaps the total neutralization of the artillery of a division will help it to understand this need."

It is thus that one of the most trenchant voices of military France expressed itself.



## Rifle Marksmanship For Artillery

By Capt. T. N. Dupuy, FA

The past three years of war have shown how important to *all* troops are the knowledge of and ability to use small arms, particularly rifles. The lesson being very plain, our army is now equipping artillerymen with carbines or rifles. The articles of THE FIELD ARTILLERY JOURNAL dealing with the war in Europe have been almost unanimous in mentioning the importance of the rifle to artillerymen. Despite this, however, there is a tendency amongst us, from the highest to the lowest, to relegate training in rifle marksmanship to a minor role in the training program. When, as happens all too rarely, there comes an opportunity for each man in a regiment or battalion to fire ten rounds or perhaps a complete course, there ensue a

couple of days of hurried rifle instruction, and after the unsatisfactory range practice the matter of rifle marksmanship is dropped, with many a sigh of relief, for another six months or so. Fundamentals are half-taught or not taught at all. Men are instructed in squeezing the trigger before they can properly aim and hold the rifle. Some of the men gain considerably from the instruction, most do not. The result is that our field artillerymen, in general, are not properly equipped to defend themselves against attack by enemy infantry. In these days of rapid movement, wide envelopments, and fluid battle lines, we must not send men into battle who are not masters of their rifles.



Naturally the prime purpose of artillerymen is to place artillery fire on the enemy. Rifle marksmanship is secondary to this prime purpose. So too the battery mess and the personal cleanliness of the men in the battery are secondary matters. We have to have a constantly functioning mess and we demand cleanliness in our men because we realize that men must eat and be kept free of disease if they are properly to serve their pieces in performing their primary task. Protecting them from enemy bullets is just as important—what value is a man to us as an artilleryman unless he knows how to keep himself alive so that he can continue to serve his piece?

We all know these things, we all think about them once in a while, but we push rifle marksmanship into the background. Rifle marksmanship is like the filling and placing of fire extinguishers, something many of us have also let slide unless we've been joggled a bit. We don't need fire extinguishers very often, but when we do there isn't time to take them down to the Quartermaster to get them filled. It's too late to worry about marksmanship when Japs or Germans are taking pot shots at your battery.

The accompanying schedule has been designed for use by an ordinary Field Artillery battery. Based on Chapter 2 of FM 23-5, it is quite similar to the course of training which is given to most infantry units. It is designed to be fitted into a normal training schedule; four to eight hours of the normal training week will be taken up, but it can be given in more intensive doses if necessary: many people believe that too much rifle marksmanship instruction at one time kills interest and enthusiasm. Training should not be stretched out over too long a period, however, lest the men forget what they have learned and lose the continuity of the instruction.

BATTERY "J," UMPTEENTH FIELD ARTILLERY

CAMP BLANK, LOUISIANA

*SMALL ARMS TRAINING PROGRAM*

- ½ hour: Preliminary talk by Battery Commander.
- 3½ hours: Disassembly and Assembly of U. S. Rifle Model of 1917.
- 5 hours: First sighting and aiming exercises. Sighting bar and rifle in rest to attain correct sight alignment.
- 4 hours: Shot groups at 50 ft., use of rifle in rest and marking disk.
- 8 hours: Position: prone, sitting, kneeling, standing. Accompany the position exercises with aiming. *No* trigger squeeze during these position exercises. Duties of coach during position exercises.
- 4 hours: Trigger squeeze. Calling the shot. Duties of coach in trigger squeeze.
- 8 hours: Rapid Fire.
- 4 hours: Windage, sight settings, score book or score card.
- ½ hour: Care and cleaning of rifle before and after firing.
- 1 hour: Examination.
- 3 hours: Small bore practice.

41½ hours Total.

(Small bore firing to be continued until actual range practice.)

JOHN J. DOE  
Capt., Umpteenth Field Artillery  
Commanding

Interest and enthusiasm should be aroused in the preliminary lecture and encouraged by every possible means throughout the course. This means, naturally, that the instructors should exude these qualities; unless they know their subject well and present it confidently and enthusiastically, the course can not be successful. If possible a course should be held for them before it is given the battery. If that is not possible, then there should be an intensive course for instructors during off-duty hours running a day or so ahead of the battery schedule with, at the very least, instructors' conferences before each class.

Let's take up each part of the course in some detail in order to see what can be gotten from it.

As has been mentioned, the preliminary lecture should



raise interest and enthusiasm to a high pitch from which they should never be allowed to drop. Many things can be included in that lecture, and certain ones must be. First, of course, should be emphasized the need for rifle marksmanship to all artillerymen in modern war. Every man must realize that his life may depend on his ability to shoot his rifle. All should realize too that the inability of one man to shoot his rifle may endanger the lives of others. This will make each man try hard in order that the others will not think he is letting them down. The fact that riflemen are made, not born, should be emphasized. Explain to them that all training is long and arduous, that rifle marksmanship is particularly so, and that the methods they will use have been found, after years of experience, to be the very best means of teaching them how to protect themselves from their enemies. For those who have a tendency to fear firearms, explain how the rifle is man's best friend on the battlefield but only if the acquaintance has been cultivated before combat. If there is any rifle to be feared it is that of the enemy. To allow fear of our own rifles to prevent us from becoming marksmen is like letting an infection drift into blood-poisoning because we are afraid of the doctor's knife. The competitive angle should be mentioned; competition between individuals, between sections and between batteries. Remind them that they are competing in training in preparation for a kind of competition in which the loser gets no return match. Safety precautions must be stressed. Like the automobile, the rifle is man's servant, but its power must be respected.

In regard to competition, there should be section rosters posted in a prominent place in each battery with spaces on the rosters for grading the men of the sections in each element of training. This will do much to encourage competition and interest. In the tents or squad-rooms post pictures showing the proper positions in firing and the proper alignment of sights. The battery's artist can turn these out in a few days, copying them from the pictures in FM 23-5. Make attendance at the classes not only a matter of discipline, make it a matter of competition as well. There should be no exceptions to attendance at rifle marksmanship courses: cooks and cannoners alike may have to shoot an enemy. Courses can be so scheduled that every man can attend every class in the subject.

At present many of our Field Artillery organizations are armed with the old Enfield (US Rifle M-1917) rather than the M-1 (Garand), M-1903 (old Spring-field), or new artillery carbine. Since our rifle texts, FM 23-5 and FM 23-10, refer only to the M-1 and the M-1903, many of us are going to have to do a little improvisation. The only real difficulties, of course, are in the technical handling of the weapon. Instruction in the technique of shooting will not change with the weapon being used, while there will be variations in the assembly and disassembly of the rifle, windage and sight settings, and care and cleaning. Officers who must instruct their men in the use of the M-1917 rifle should try to get a few copies of an old publication of the last war: "Soldier's Handbook of the Rifle and Store Book for Special Course C Arranged for the United States Rifle Model of 1917,"\* although in some minor points it differs from the latest thought on marksmanship and care should

\*"There are on hand in the office of the Director of Civilian Marksmanship approximately 1,250 copies of this manual available for free distribution in limited numbers upon application in writing to the Director of Civilian Marksmanship, Room 202, South Wing, New D. C. Armory, 19th and B Streets, Southeast, Washington, D. C.

"This manual is obsolete so far as the active Services are concerned and will not be republished. While it is adapted for the M-1917 rifle, the instructional information it contains is excellent for any rifle for all time."—Col. F. C. Endicott, Director of Civilian Marksmanship.

be taken to see that in using it you do not run counter to any of the principles of marksmanship as laid down in FM's 23-5 and 23-10. This caution pertains particularly to sighting and holding the sights on the bullseye.

The Handbook mentioned above is particularly helpful in instruction on the assembly and disassembly of the rifle. Pages 14, 15, and 16 explain this very explicitly. For those armed with the M-1 rifle paragraphs 4 to 9 (inclusive) of FM 23-5 should be the basis of instruction, while for the M-1903 rifle paragraph 8 of FM 23-10 covers the same ground. Assembly and disassembly of the rifle must not be slighted. Every man must have a thorough knowledge of the instrument upon which his life may depend. There is no excuse for a man being unable to strip his rifle as far as Ordnance restrictions will allow. Periods on the assembly and disassembly should also include some instruction on the functioning of the piece. Interest in this instruction can best be maintained if the soldier is instructed in the role which each part plays in the firing of the rifle. Pages 7 to 11 inclusive of the Soldier's Handbook on the M-1917 rifle cover this, as do paragraphs 16 to 31 of FM 23-5 and paragraphs 1 to 5 and 13 of FM 23-10.

Instruction in preparatory marksmanship training should follow, for all types of rifle, the general provisions contained in paragraphs 55 to 62 of FM 23-5. This is practically identical with paragraphs 16 to 23 of FM 23-10, the only differences being minor ones obviously due to differences in the construction and operation of the weapons.

The matter of windage and sight settings will differ, of course, with the type of rifle used. For the M-1, paragraph 61 of FM 23-5 will apply, with the M-1903 paragraph 30 of FM 23-10 will govern, and with the M-1917 refer to pages 44 to 49 of the Handbook for the rifle.

Care and cleaning of the rifle also depends upon the materiel. For the M-1 paragraphs 10 to 15 of FM 23-5, for the M-1903 paragraphs 6 to 12 of FM 23-10, and for the M-1917 pages 17 to 19 of the Handbook, must be referred to.

Small bore practice is of the utmost importance.

Through it competition can be fostered and thus interest in marksmanship maintained. In many cases it may be possible for units to continue small bore practice at frequent intervals both before and after range practice. Since marksmanship is so much a matter of practice, every effort should be made by responsible officers to encourage it. Caliber .22 rifles and ammunition may be purchased out of organization funds when they are not available for issue. It will be found that there are few recreational items which will be as popular with the men of the battery, and certainly the training value of such purchases would alone encourage the expenditure.



# AN ALTERNATE LINE-UP FOR FIELD ARTILLERY

By Capt. E. A. Raymond, FA

Under a wide variety of circumstances field artillery loses the fire power of its guns and howitzers, its principal weapons. It never loses its mission of supporting the infantry by fire power. Utilization of secondary weapons by artillery as well as by tank units and other specialized troops, has been an important part of modern German training, and artillery officers who served in the French and British armies in France in 1940 have decried their own lack of training as effective mobile units with machine guns, automatic rifles and carbines.

Here are some conditions which would prevent artillery from firing its primary weapons:

1. If, as often happens, the guns of one or all batteries are knocked out early in an engagement by better enemy artillery or superior enemy air power.

2. If enemy troops reach areas well off roads, by surprise, successful action, or the use of parachutists. Areas inaccessible to wheeled vehicles are often of great strategic value, particularly in mountain and jungle fighting. It is always dangerous to rest a line on a natural obstacle, or supposedly impassable terrain, as by showing just a little more vim than he had been given credit for, many an enemy has turned such obstacles or areas to his advantage. We should be able to reach into such places.

3. If ammunition supply is cut off, by

a. Destruction of ammunition dumps and/or gasoline tanks by sabotage or aerial bombing.

b. Successful interdiction of lines of communication.

c. Breakdown of supply lines from causes other than direct enemy action: lack of ships and docking facilities, bad roads, insufficient ferries, congestion of key areas in the rear, or congestion of limited road nets in some theatres.

The writer will not soon forget the exhortation of Colonel (later Brigadier General) Edmund L. Gruber to artillery officers and non-coms of the First Division: "If enemy infantry or mechanized units get through to your positions," he said, "—and they probably will—I do not want to hear of a single battery in this division being *defended*. I want you to go out and get the enemy. Throw out parties to right and left, surround and annihilate any enemy in your position areas. Just because a man wears a red hat cord, that is no reason to suppose that he is unable to fight. I look at it the other way around."

What the late author of the Field Artillery Song and well-known jungle fighter had to say of close-in combat while the guns were still serviceable, surely applies with at least equal force to fighting when the pieces are no longer of use. We need secondary training and organization of all artillery units. The French and British found the full tide of battle over them before they got

around to doing very much about this problem. In the light of European experience and easily visible sources of trouble here, it would seem the part of prudence to devise and perfect an alternate fighting line-up without our guns. This line-up should be sufficiently flexible to permit conversion of one battery only, one battery at a time, or all batteries, to the secondary organization. A suggestion follows:

## *Machine Gun Organization of 105-mm.*

### *Howitzer Battalion*

(Assuming substitution of carbines or tommy-guns for cal. .45 pistols.)

#### *I. Headquarters, Headquarters Battery, and Service Battery.*

No change, except that personnel designated to carry individual weapons will fight in squads of about ten men each, under a sergeant. This outfit will constitute the reserve of the battalion when it fights as a whole.

#### *II. Howitzer Batteries.*

*B. C. Party:* BC, Signal Sgt., Instr. Sgt., Instr. Cpl. (with range finder).

The BC will normally accompany the .50-cal. Platoon, but will take Mobile Reserve into action when it is committed.

*.50-cal. Platoon:* Reconnaissance Officer (2nd Lt.), Instr. Opr. (BC 'Scope), Scout (Agent). Remainder of Detail (less Sc. Cpls. 1 and 2, Instr. Ops. 1 and 2).

*.30-cal. Platoon:* Executive (1st Lt.), Instr. Op. 1 (Aiming Circle), Sc. Cpl. 1, 1st and 2nd Sections.

*.30 cal. Platoon:* Assistant Executive (2nd Lt.), Instr. Op. 2 (Aiming Circle), Sc. Cpl. 2, 3rd and 4th Sections.

*Mobile Reserve:* 1st Sgt., 5th Section, Maintenance Section.

Each platoon should have radios and trucks when the situation favors. Voice and runners provide normal communications. Transport will normally be human, with machine guns carried by primitive means such as the pole and hammock of Equatorial African bearers, the tump line and toboggan of North American Indians, the sledge for muddy going, etc.

One item requiring attention is the conflict between infantry and artillery arm signals—our "out of action" is their "as skirmishers"; our "commence firing" is their "by the ——— flank" and so forth. When artillery fights as infantry, doughboy technique should be followed. It will only take a few minutes to make clear when each meeting is to be given a particular signal.

The proposal of a secondary line-up for field artillery is common conversation in many messes. It is only necessary to take part in such a discussion to see how badly we need to train under a predetermined plan, in advance of an action.

# CURRENT BRITISH DOCTRINE

## ARTILLERY PATROLS (British War Office)

Information in war is of such vital importance that a commander is never justified in waiting for it to reach him; he must seek it for himself. Where the situation is obscure, a regimental (battery, troop) commander should send out an artillery patrol to seek either tactical or technical information, or both.

This patrol, which may vary from a troop commander in his armored carrier to a subaltern on a motorcycle, should if possible be under the command of an officer. If the matter is urgent, or the patrol likely to be protracted, special means of communication (such as wireless or D.R.'s) must be provided.

It is essential that the patrol leader be given definite orders, and it is best if the required information be put in the form of definite questions. He must be told:

- i. Latest information regarding the enemy and our own troops.
- ii. Points on which information is required.
- iii. The approximate route he is to follow and the approximate distance beyond which he is not to go.
- iv. Hour by which the information is required.
- v. The HQ locations of any units in whose zones he is to work.
- vi. Probable length of duty, and any special administrative arrangements.

In addition to its specific tasks, a patrol may discover information which may be of great assistance to other arms. All such information should be included in the report of the patrol leader.

## ARTILLERY USE OF MINES (Remarks of the Chief of Artillery, GHQ, India)

The senior artillery commander within the division is responsible for the coordination and proper laying of mine fields in defense of the division artillery. All grades pitch in and lay the fields, so that in practice a British artillery troop (battery) can lay 2,000 mines a day. They *must* be set out even if there is only a *rumor* that armored vehicles *may* be in the vicinity.

The best method of marking is by high posts with two strands of wire, on the upper of which revolving ration tops are set. It has been noted that dummy mine fields with well-marked boundaries are quite effective as a deterrent, except in an all-out attack. The mines and boundary limits must never, however, be spaced or placed in a regular pattern.

A density of 1 to 1½ mines per yard of front is required to be effective. In a retirement odd mines are set out to deter over-zealous pursuers, and at night troops place mines on top of the ground around their camp, for local security.

The best order of work for setting out mine fields:

- (1) Mark the near limit of the field with wire and 3-foot poles.
- (2) Mark far limits in the same manner.
- (3) Using knotted string to spot them, place mines on the ground and dig them in—*saving the string* for recovering the mines.
- (4) Place booby traps in and around the far edge of the field.
- (5) Plan defensive fires and patrols in close defense.

## LOCAL PROTECTION (British War Office)

All headquarters, command posts, and gun positions must have a system of local security, not only against tanks and infiltrating infantry but also against air-borne troops and enemy agents. This protection is best provided by a system of prowler guards working in pairs (covering each other's movements) and hidden riflemen covering approaches. At night L.M.G.'s should be sited to cover likely lines of approach with direct fire at close range.

Defense against attacks by A.F.V.'s\* must always be considered in the selection of gun positions, and it must be borne in mind that the field artillery forms part of the general antitank layout for the area in which it is located. At halts and in bivouac it may be necessary to site single guns for local protection.

This ground defense must be coordinated throughout the unit, and later throughout the whole formation area. In the event of a breakthrough by the enemy, the gun position and L.M.G. positions will form rallying points for the infantry. In the absence of other orders, these points will be defended to the last round.

When units or formations are halted in rendezvous, a system of all-around defenses must be organized and coordinated throughout the whole formation so that all possible lines of approach are covered. Patrols should always be sent out to give warning of attack.

*All* units must have parties detailed and ready day and night for prompt action against air-borne troops.

---

\*Armored Fighting Vehicles.

# POSITION PROTECTION

From one of our observers with British GHQ in India comes the following authoritative statement:

**British experience in Libya indicates that Germans hate and fear 155-mm. howitzers. Their aircraft attack these guns with all-out bombing whenever located, and artillery shells them continuously. Since in very open country — and sometimes in wooded terrain—it is extremely difficult to conceal this weapon, the British have found it necessary (and it is so prescribed with emphasis at the Field Artillery School) to:**

- (1) Dig in at all times, in the order: slit trenches, gun pits, ammunition pits, prime mover pits, and pits for other vehicles.
- (2) Provide overhead cover for gun crews against machine gunning.
- (3) Habitually (and most important) have about 200 yards between individual howitzers in the firing position. This interval necessitates either some form of loud speaker system for the executive, or additional telephones from executive to pieces.\*

**Guns smaller than 155-mm. or 6-in. howitzers appear to be able so to conceal themselves that they do not have to take these precautions.**

That we have been well aware of the need for *habitual* use of hasty entrenchments is indicated by the standard practice at Fort Bragg for many months past. Training Memorandum No. 74 of the F.A.R.T.C., applying to both officers and enlisted men, is aimed to make every soldier strongly aware of the importance of hasty entrenchments as a defense against artillery, air, tank, and ground troop attacks.

Hasty entrenchments are actually dug whenever possible at service practice and on all RSOP's, marches, and field exercises. Each tactical and terrain situation governs the type and disposition of entrenchments, but cross or chevron trenches are so sited as to enable cannoneers to deliver carbine or rifle fire in all directions for close-in defense of the gun position. Development of hasty into deliberate types proceeds at once if the situation permits; this is a continuing process, and is facilitated by digging the trenches deeper, without widening—this allows occupants to move into a section from which all can deliver effective fire against attackers, and be least vulnerable to enfilade or oblique fire.

Protection is provided for all personnel, appropriate entrenchments being dug at motor parks, command posts, and OP's, as well as at the gun positions themselves. All pits are refilled at the conclusion of exercises.

Of course, restrictions relative to shrubs and trees on the reservation and leased areas are observed. In cases where it is thus impracticable to dig in, necessary plans and preparations are made and outlines of the proposed work are marked on the ground.

Speed in providing the protection of slit trenches is important to every member of the battery. Immediately on occupation of position personnel shelters must be started,

and improved as time permits. It is essential that work on trenches be started at once, because enemy counterbattery and aircraft strikes most effectively when the personnel and equipment are without their best protection.

In digging slit trenches, take care that they are sufficiently separated so that a single shell or bomb will not destroy more than one trench.

Be sure that each trench has a field of fire for its occupants and that fire from one trench will not interfere with the men in another nearby.

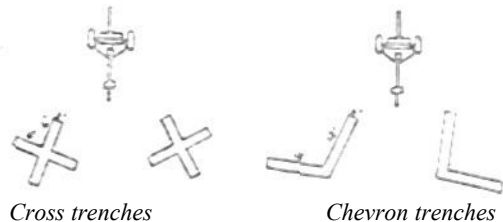
Sometimes tanks overrun artillery positions. In those cases, the trench is the safest place in the vicinity. In most soil, a tank will cross a well-dug slit trench without injury to the personnel therein.

Then the trench offers a good position from which to heave grenades or sticky bombs at nearby tanks. The trench will protect you from tank fire. Your best chance to defeat the "tanker" is to lie low until he's too close to lower his sights to your level. Then use a grenade or bomb to blast him.

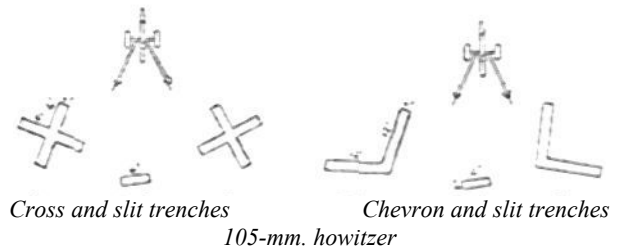
This method has been proven in the Spanish Civil War a few years ago and in the current conflict by British, Chinese, and Russian soldiers.

You'll agree that the entrenchment is essential; but has your battery ever actually "dug in"? Try it and learn how long it takes.

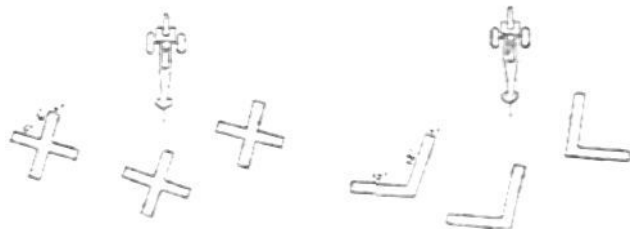
TYPES OF HASTY ENTRENCHMENTS  
(average depth: 2 feet)



Cross trenches  
Chevron trenches  
75-mm. gun



Cross and slit trenches  
Chevron and slit trenches  
105-mm. howitzer



Cross trenches  
Chevron trenches  
155-mm. howitzer

\*See "Intra-battery Communication," page 649, FIELD ARTILLERY JOURNAL, August, 1942.

# Get Tough!

From his experience of over thirty years with the Shanghai police department, Major W. E. Fairbairn has prepared a down-to-earth manual on hand-to-hand fighting bearing the above title. The *Journal* is indebted to D. Appleton-Century Co., Major Fairbairn's publishers, for permission to give its readers these examples from that book.

## CHIN JAB

Deliver this blow with the heel of your hand, full force, with the weight of your body behind it, and fingers spread so as to reach your opponent's eyes, as in Fig. 1. Always aim at the point of your opponent's chin (Fig. 2).

1. Deliver the blow upward from a bent arm and only when close to your opponent. The distance the blow will have to travel will depend on the height of your opponent, but will seldom exceed six inches.
2. Never draw your hand back, thus signaling your intention of striking. From start to finish, make every movement as quickly as possible.
3. Remember that an attack, or an attempt to attack, with the knee at your opponent's testicles will always bring his chin forward and down.



Figure 1



Figure 2

## RELEASE FROM A WRIST HOLD (TWO HANDS)

You are seized by the left wrist, by two hands, as in Fig. 3, your opponent's thumbs being on top. Reach over and catch hold of your hand with your right. Pull your left hand sharply toward your body, *against his thumbs*. (Fig. 4).

*Note A.*—The pressure on his thumbs, which is slightly upward and then downward, will force him to release his hold immediately.

*Note B.*—Follow up with chin jab, edge-of-the-hand, or knee kick to the testicles.

Should your opponent seize you as in Fig. 5 (his thumbs underneath), pass your right hand under and catch hold of your left hand as in Fig. 6. Pull down sharply toward you.



Figure 3



Figure 4



Figure 5



Figure 6

## JAPANESE STRANGLE HOLD

1. Approach your opponent from behind.
2. Place your left arm around his neck, with your forearm bone bearing on his "Adam's apple."
3. Place the back of your right arm (above the elbow) on his right shoulder and clasp your right biceps with your left hand.
4. Place your right hand on the back of his head.
5. Pull him backward with your left forearm and press his head forward with your right hand, and strangle him (Fig. 7).

*Note.*—Should your opponent attempt to seize you by the testicles:

- (a) Keep your grip with both arms, straightening out the fingers and thumbs of both hands. With the edge of your left hand in the bend of your right arm, place the edge of your right hand just below the base of the skull.
- (b) Step back quickly, at the same time jolting his head

forward with the edge of your right hand, and dislocate his neck (Fig. 8).

- (c) If your opponent is a taller man than yourself, making it difficult for you to reach his right shoulder with your right arm, as in Fig. 7, bend him backward by applying pressure on his neck with your left arm. If necessary, punch him in the small of the back and bring him down to your own height.



Figure 7



Figure 8

#### SMACKING THE EARS

This method should be applied when your opponent has no protection over his ears.

1. Cup your hands, keeping the fingers and thumbs bent and close together.
2. Strike your opponent simultaneously over both ears, using five to ten pounds force (Fig. 9).

*Note.*—This will probably burst one or both ear-drums, give him at least a mild form of concussion, and make him what is known in boxing circles as "punch-drunk." You will then have no difficulty in dealing with him in any way you wish.

So that you may realize what the effect of a blow given as above is like, apply it on yourself. Care must be taken to use *only* half a pound force with each hand.



Figure 9

#### DISARMING AN OPPONENT OF HIS PISTOL— OPPONENT BEHIND YOU

1. Hold your arms as in Fig. 10.
2. Turn rapidly inward toward your left-hand side, passing your left arm over and around your opponent's right forearm, as near the wrist as possible, and bring your left hand up your chest (Fig. 11).

*Note.*—It is impossible for him to shoot you or release his arm from this grip.

3. Immediately the arm is locked, knee him in the testicles with your right knee and chin-jab him with your right hand, as in Fig. 12.

*Note.*—If the knee blow and chin jab do not make him release his hold of the pistol, go after his eyes with the fingers of your right hand.



Figure 10



Figure 11



Figure 12



# SOCK 'EM



New techniques are being adopted by the Tank Destroyer Command at Camp Hood, Texas. Vehicles of all kinds are being used in experiments—from jeeps to half-tracks carrying forward-pointing 75's.

"Sticky bombs" well illustrate the ingenuity with which the problems are being tackled. Materials required: one sock, GI, old, or an ancient rag; a few pounds of glymite (season to taste); suitable length of wire, twine, or sumpin' to keep glymite in sock; blasting cap and a length of ordinary fuze; match to light same; and a good-sized gob of axle grease. Assembly and use appear clearly in the accompanying photos. Purpose is obvious, results are excellent due to close contact of glymite and tank when the explosion occurs.





# RUSSO-GERMAN WAR

---

## PART V

---

By Colonel Conrad H. Lanza

During the first week of December, 1941, the German High Command issued orders to discontinue their offensive in Russia for the winter. This decision may have been due to a belief that the probable results from a winter offensive would be incommensurate with the efforts required. More probably it was due to difficulty in furnishing the German armies with food, ammunition and supplies.

Russian railroads were of broader gauge than the west European lines, and had to be altered to receive German engines and cars. Russian roads were generally unimproved. German motor transportation was having trouble with the lubricating oil; we do not know exactly how serious this was, but the Germans announced that as one of their reasons for suspending the offensive. Whatever the real reasons, cessation would gain time to prepare for a more thorough campaign in the ensuing spring.

The Germans envisaged some realignment of the front line to include substantial withdrawals in some sectors, should the enemy's actions require it. No important areas were to be abandoned. The sieges of Leningrad in the north, and of Sevastopol in the south, were to be continued on an inactive or blockade basis. Where the enemy was quiet, only measures for watching the front and securing necessary identifications were to be undertaken. If the enemy was not quiet, operations would be localized as far as possible, but might include limited offensives.

Germany broadcast the change in her campaign plan, so the Russian High Command knew about it by December 8th. If the German intention in publishing their plans was intended to obtain Russian acquiescence to passing the winter without fighting, it was a complete failure. The Russians considered that the German decision to take the defensive had been forced upon them by the exigencies of the situation, and was by no means voluntary. This action was construed as a sign of fatal weakness, due to supposed huge losses of men and materiel, supply difficulties, and above all to Germany's being unable to furnish sufficient clothing, transportation, and shelter for the severe Russian winters. The Russian press prominently presented articles alleging that the Germans were completely unprepared for a winter war; that they no longer had any reserves to replace their appalling casualty lists, whereas the Russians claimed that their own reserves were practically



*On frozen lakes the Russians widely used sledges driven by air scre??*

inexhaustible; and that the Russian army was daily becoming stronger and better.

In view of this estimate of the situation, Russia decided not to accept the invitation to a quiet winter season. It seemed preferable to assume the offensive, and attack vigorously what appeared to be a weak and declining foe. Russian policy throughout the war had been to deliver their offensives against areas believed to be of strategic importance; three were selected for the proposed winter campaign:

- a. an operation to relieve Leningrad;**
- b. another to relieve Sevastopol;**
- c. a third to drive the enemy away from the vicinity of Moscow, to which important city he was entirely too close for comfort.**

These operations were assigned respectively to the North, South, and Center Groups of Armies.

### OPERATIONS, DECEMBER, 1941

The Center Group had large forces around Moscow. This Russian force was immediately ready; it attacked the flanks of the enemy line near Mikhailov and Stalinogorsk (about 115 miles south of Moscow) and near Klin (about 50 miles north of Moscow). There was no serious resistance and the Germans fell back to the west. By December 18th the Germans had retreated to the general line Rzhev — Volokolamsk — Naro Fominsk — Kaluga — Oka River — Orel (all inc.).

The Russian North Group of Armies elected to relieve Leningrad by attacking west along the entire front from Tikhvin to the Valdai Hills inclusive, this operation starting in the middle of the month. The Germans fell back and before the New Year were on the line Schlüsselburg — Volkhovo — Volkhovo River — Lake Ilmen — Pola River — Rzhev.

According to Russian accounts, the Germans in both



the foregoing withdrawals abandoned large quantities of materiel, thereby confirming the impressions that the German armies were incapable of further serious fighting and were seeking safety by flight from the superior Russian forces.

In the south the Russian group of armies adopted a plan for relieving Sevastopol by utilizing the Russian control of the Black Sea to land two expeditions in Crimea, one on each side of Sevastopol, coupled with an overland advance launched from south of Kharkov. As the preparation of the required transports required considerable time, the first sea expedition was not ready until the end of December. Then it made successful landings on both sides of the Kerch Peninsula. Only weak enemy forces were met, and Kerch, which has a small but good harbor, was captured. The second wave of the sea expedition was landed at the very end of the month, near Feodosiya. A real start had been made to relieve Sevastopol, main Russian naval base and arsenal on the Black sea, which was garrisoned by a force of approximately 75,000 men.

During the winter the Germans worked hard on the erection of three defensive lines in rear of the Russian front. These were:

*a.* The old Stalin line, lying generally just west of the Dnepr River. This line already existed, consisting of rather extensive works around important railroad and road centers, with minor works between. This Russian line, however, faced to the west; it was necessary to correct this, making corresponding changes in the foreground.

*b.* The Bug River Line was laid out immediately after the conclusion of the war in Poland, and after two years' labor was reported practically completed.

*c.* The Oder River line, laid out in September and October, 1941. There is no reliable information concerning this line.

The labor for these defensive lines was obtained by employing prisoners of war and conscripted labor from Poland.

#### OPERATIONS IN JANUARY, 1942

Early in January, the Russian Center Group of Armies attacked the large German salient from Rzhev to Volokolamsk—Mozhaisk—Maloyaroslavets. These Russian efforts met strong resistance. Nevertheless, the Russians made some progress.

The South Group of Armies continued with their efforts to relieve Sevastopol. The next wave to invade the Crimea was put ashore near Yevpatoriya, north of Sevastopol, commencing on the 7th. Like the preceding expeditions, the entire expedition was gotten ashore. The size of this expedition was about 50,000 men, while more than 100,000 were at Feodosiya and in the Kerch Peninsula. Apparently there was no cooperation between these forces.

The Crimea lay for the Axis in the sector of Allied troops, mostly Rumanians. The Russian landings at the end of December and beginning of January were a surprise and there were insufficient forces available to meet the two strong sea expeditions and at the same time continue with the siege of Sevastopol. It was necessary to send for reinforcements; these assembled along the railroad extending north from Simferopol, and had nearly completed this movement at the time the Russians seized Yevpatoriya. The local Axis commander, General von Mannstein, decided not to allow the enemy time, but to defeat them in detail before they could unite. His plan was:

- a.* Attack the hostile forces near Yevpatoriya; then
- b.* Attack and overthrow the enemy west of the Kerch peninsula, forcing them back into Kerch. Next,
- c.* Reduce the Kerch Peninsula. Finally,
- d.* Reduce Sevastopol, after the destruction of the exterior relieving forces.

There was no "timetable" for this plan. It was to be carried out as expeditiously as possible, without calling upon GHQ for more troops.

Leaving only observation forces toward Feodosiya and Kerch, supplemented by strong air observation, the main forces moved about January 10th toward the nearby Yevpatoriya enemy. Whether these Russians had landed knowing that the main enemy army was just to the east along the railroad is not known, but the present available evidence indicates that they did not know it. The Axis forces, German and Rumanian, attacked the Yevpatoriya Russians on both flanks, from the front, and from the air, with troops superior in numbers and equipment. The Russians fought for four days.

During this short campaign the Sevastopol garrison, which was not far away, made several sorties. The Axis did not oppose these, but fell back, maintaining the line around Sevastopol. The garrison did not push their success. The Russians at the other end of the Crimea spent their time in organizing and establishing a base at Kerch

and did nothing to assist their comrades around Yevpatoriya.

After the end of the short Yevpatoriya campaign, von Mannstein moved the bulk of his forces, less blockade troops before Sevastopol, toward Feodosiya. He wasted no time: he attacked on the 18th and was in Feodosiya on the 19th. By January 22nd all Russians west of the Kerch Peninsula had been driven east into the Peninsula, which von Mannstein then blockaded at the west exit. The Russians had brought reinforcements into Kerch and had nearly 150,000 men, or more than the Axis had, but could not deploy their superior numbers across the twenty-mile-wide entrance to the isthmus. They were effectively bottled by an inferior force. They held a good port and base but were unable to advance toward Sevastopol, which had been their mission.

Due to the fact that the Russian Navy controlled the Black Sea, they could not only land expeditions along the coast, but also reinforce and supply Sevastopol and now Kerch. In view of this situation, German GHQ decided that control of the Black Sea must be wrested from the Russians by using what Axis naval forces were available, plus their air force. The Rumanian Navy, containing a few destroyers, gunboats, and submarines, was made the nucleus; it was strengthened by an Italian contingent of motor torpedo boats, an Italian specialty, and a similar German contingent. The combined force was under Vice Admiral Georgescu, of the Rumanian Navy. Arrangements were not completed until March, however, because of the time required to bring the MTBs overland. Nikolaev, which had been the second most important Russian naval base on the Black sea, was now available to the Axis; its arsenal and naval shops had been partly repaired and were able to operate for the small Axis vessels.

Russian GHQ felt encouraged at the beginning of January: immediately before Moscow their troops had advanced substantially; large forces had been landed in the Crimea; the North Group of Armies reported that they were about ready to launch a terrific offensive, expected to relieve Leningrad; while the entry of the United States in the war assured the arrival of necessary munitions and supplies. It looked as if the Axis was beaten and on the way out. The end of the war in 1942 was foreseen as a distinct possibility, provided the Russian offensives were continued and supplemented by others to be initiated by the United States and by the British Empire. It was decided to add one more offensive to the three already adopted, the new mission to be an attack on Finland with a view of knocking her out of the war and at the same time improve the safety of the line of supply across the Atlantic to the Arctic ports of Murmansk and vicinity. This might even induce Sweden to join the United Nations in a common attack upon the Axis.

Considerable publicity was given to this proposed campaign. Partly through the United States, which was

not at war with Finland, and partly through neutral nations, it was made known to the Finn government that a strong attack on it was contemplated, but if it would leave the Axis and join the cause of the United Nations, a settlement guaranteeing the independence of Finland, with boundaries as in 1939, might possibly be arranged. Finland declined the proposition. The attack on Finland thereupon started on January 8th, along the Svir River, and was quickly extended northward along the front, which was parallel to and just west of the Murmansk Railroad.

The North Group of Armies' plan to relieve Leningrad was to attack westward both north and south of Lake Ilmen, with intent of continuing on and cutting the main line of German communications, which was the railroad northeast from Pskov to Leningrad. During December, the advance from the vicinity of Tikhvin to the Volkhovo River had not been seriously opposed. This gave grounds for hope that this condition would continue, due to the supposed exhausted state of the enemy.

Both Russian attacks started in mid-January. The north attack met strong resistance, but forced a crossing of the Volkhovo River and established a deep salient in the German lines. The attack then petered out and was not again renewed. The Germans, finding that the Russians had only gotten about halfway to the railroad and were no longer aggressive, were content to let well enough alone, and in compliance with their plan for a quiet winter did not interfere with the salient.

The Russian south attack started from the line Ostashkov — Selizharova, with axis of advance directed on Kholm, and was soon followed by an extension just south of Lake Ilmen, directed toward Staraya Russa. The Germans fell back and the south branch of the Russians by January 23rd reached the line Kholm—Toropets—Zapadnaya Dvina. Kholm remained in German possession (held by about one division) and encircled by the Russians. The north branch of the attack had a similar experience. It reached Staraya Russa and found it held by about two German divisions who stayed there while the rest of the German line fell back. This town too was surrounded by the Russians.

Staraya Russa and Kholm were the important rail and road centers of that region. The Russians failed to find practicable detours around these two obstacles to a further movement to the west. They thereupon concentrated upon reducing these places and forgot the original mission of cutting the German line of communications to the Leningrad area. The Russian North Group of Armies was true to the policy of concentrating their major efforts against areas rather than the enemy's main forces. They published glowing accounts of having encircled the German 16th Army and predicted the approaching extinction of this enemy force; it now appears that only about three divisions of the 16th Army were encircled,



and these held out all winter, using supplies stocked in advance or dropped from the air.

Late in January the Russians started their overland effort to relieve Sevastopol by an advance from south of Kharkov. It got over the Donets River and by the 29th reached and occupied the line Lozovaya to Barvenkova, where it was stopped on the Axis main line of resistance. Another attack made further north against Kursk failed at the start.

#### THE FEBRUARY BATTLES

The Russian North Group of Armies pushed the sieges of Staraya Russa and Kholm. No appreciable progress was made, and in the meantime the advance toward Leningrad remained suspended.

The Leningrad garrison appears to have been under an energetic and resourceful commander. It had cooperated with the attacks north and south of Lake Ilmen by attacking the enemy lines around the city. It succeeded in pushing its own lines forward sufficiently to reduce considerably the shelling of the town. But it soon realized that the efforts to relieve were not very promising, so decided to help itself by opening a line of communications around the German siege lines.

Taking advantage of the severe Russian winters and the resultant deep freezing of Lake Ladoga, a road was opened across the lake, extending to near the German flank near Schlüsselburg and into the Russian lines further east near the Volkhovo River. This was called "The Road of Life," for it had been a hard winter in Leningrad. There was lack of food, much sickness, poor shelter, and shortage of ammunition. Hardship is a spur to endeavor, and the inhabitants of Leningrad worked hard on their ice road. Troops were posted out in the lake to protect it against raiding parties; planes patrolled the line continuously; batteries were posted on the shore and sometimes out on the ice to protect the terminals. The road operated day and night. Occasionally it was shelled by the enemy, sometimes it was raided, but the Russians fought back and protected their road. Nights were long in this latitude; snow

fell frequently; and the enemy could see what was passing only on those few short winter days when it was clear. An enormous amount of traffic moved over the "Road of Life" during the remainder of the winter. The German siege lines were not broken, but Leningrad received a considerable increment of strength through the efforts of its own garrison. This was its only relief.

The Russian Center Group of Armies made major attacks against Smolensk, the next area selected as an objective. Dents were made in the German lines, but Smolensk was never in danger. Twice when the Russians reached the vicinity of Vyazma, the Germans delivered strong and large counter-attacks, through deep snow and in severe sub-zero cold. Each time they defeated the Russian advance, taking according to their accounts over 20,000 prisoners, 400 guns, and other booty in proportion. The net result was an advance by the Russians which included no important locality.

In the last days of February the Russian 2nd Army made an effort to relieve Leningrad by attacking across the Volkhovo River. They succeeded in crossing, but on meeting strong resistance gave up the attempt.

Nothing much happened in the Crimea during February. The Russians in Kerch were strongly reinforced, as the High Command, after the experience at Yevpatoriya, was of the opinion that new troops should be sent to places where beachheads were already established rather than risk the loss of a separate wave by putting them ashore at some place which might turn out to be a trap. The Kerch Army therefore grew to about 200,000 men, and was well supplied with tanks, artillery, and supplies. Its mission—to relieve Sevastopol—was unchanged. The sea route to this fortress was open, and it was independently supplied with men, materiel, and supplies.

On February 22nd Stalin in a speech gave a summary estimate of the situation as it appeared to Russia at that date. The substance of this was repeated on the 26th at New York by M. Maxim Litvinov, the Russian ambassador to this country, when he stated:

**"Next spring on the east (front) . . . the struggle with Hitler will reach its peak, and we should like to have the utmost possible aid by then. We should like all the forces of the Allies to be put into action by then, and that by then there should be no idle armies, immobile navies, immobile air fleets. This applies also to military materials. . . ."**

**"We hear a lot about the common efforts of the United Nations toward achieving victory. But common efforts which do not include common fighting may not be sufficient. Indeed, we see that they are not. This fighting, divided in space, must not be divided in time. It may be of little use to have large, well equipped armies, say, somewhere in the west, if they are not in action, while decisive battles are raging in the east. When such battles are over, it may be too late for the western armies to serve their purpose. Only by simultaneous operations on two or more fronts . . . could Hitler's armed forces be disposed of."**

Since that speech, Russia has neglected no opportunity to impress upon her allies the urgent necessity of aiding her by doing something which would cause the Axis to reduce the pressure of its armies deep in Russia.

## THE MARCH BATTLES

The Russian forces in Kerch, now amounting to nearly a quarter of a million well equipped men, resumed their mission of relieving Sevastopol. They had first to issue out of the Kerch Peninsula, only about twenty miles wide at the neck, bottled by the enemy. Commencing on March 13th, and then almost daily until the 28th, the Kerch force attacked. The intensity of the attacks varied from day to day, but in general they had strong tank, artillery, and air support. However, the enemy had not been idle since the January battles, but had erected strong fortifications, amply covered by artillery and with the foreground well mined against tank assaults. A German air fleet was at hand and very effectively intervened in the fighting, paying special attention to bombing and dispersing armored forces at their place of assembly before the attack was launched. The Axis defense was so vigorous that, notwithstanding the long continued effort of the Russians, no progress to debouching into the Crimea proper was made.

The Sevastopol garrison this time cooperated with the Kerch troops by making strong sorties against the encircling siege lines. There was some hard fighting, but the Axis lines held. At the end of the month both Russian forces, at opposite ends of the Crimea, remained thus in their respective areas with the enemy between them.

The Axis looked forward to the final reduction of Sevastopol. They built a new railroad from the south Ukraine to Perekop at the entrance to the Crimea, moved in siege artillery, and accumulated ammunition for a future day when they would be ready to push the siege.

The Axis was generally very active in the Ukraine: roads were improved, railroads rebuilt, new bridges erected. Industries which had been partially destroyed were repaired and reopened. The great power plant at Dnepropetrovsk was repaired in part, and generation of power commenced. Mines began to produce. Preparations were materially advanced to have munitions required for Axis troops in Russia produced in the Ukraine industrial area. The Axis idea seems to have been to have the Ukraine in 1942 produce a part of the military materiel required for its armies in the field, which in this year would be in Russia, and in 1943 to provide more materiel, munitions, *and food* for armies which may then be fighting in a totally different and more distant area. The Axis program was therefore divided into improving transportation, producing power and munitions, and reestablishing the Ukraine as the great granary of Europe. To replace the gasoline tractors heretofore everywhere used in the Ukraine, new steam tractors are being issued. The latest information indicates that not enough of these will be available in 1942 to enable more food to be raised in the Ukraine than is needed for local consumption. Apparently it is hoped that there will be enough by 1943 to enable a substantial amount of food products to be exported to Axis-controlled countries.

The Russian plan to knock Finland out of the war started during March by a series of attacks along the Svir River front, and further north along the Murmansk Railroad. Finns are hard fighters, and they counterattacked at every opportunity. They knew their country and were equipped and accustomed to fighting in bitter cold. They gave the Russians a tough experience, and in general held their lines. The Russians did not persist, and the plan was dropped.

The North Group of Russian Armies spent March in vain efforts to capture what they described as the "encircled 16th German Army" at Staraya Russa and Kholm. The three German divisions which were surrounded in these two places adopted a hedgehog defense. They held on.

Believing that Staraya Russa could not survive, the Russians repeatedly announced its prospective extinction and waited for this event to happen; it never did. No serious attempt was made to detour around these two defended places and go on with the relief of Leningrad which had been the mission of this Russian army. Nevertheless,





*Tankers alone could keep their feet dry. Nazis systematically burned farms as well as villages and towns.*

Leningrad due to its "Road of Life" across frozen Lake Ladoga was in better condition.

#### THE END OF THE WINTER WAR

On April 3d a Russian G-2 study of an analysis of captured German prisoners taken was published. It showed that, as to ages,

	22%	were	16 to 18	years	old
only	6%	"	18 to 30	"	"
	12%	"	30 to 40	"	"
	20%	"	40 to 45	"	"
	40%	"	over 45	"	"

This was interpreted to indicate that German reserves were approaching exhaustion and that few young men were left available. Attention having been invited to the fact that assuming that the prisoners taken represented a fair cross section of the entire front, about which there seems to be some doubt, it would be possible to interpret the data submitted to mean that the Germans had withdrawn for other purposes the divisions holding the majority of men between 18 and 30 years of age, and that their present forces in Russia might be second line divisions which the Germans had found to be all that was necessary to hold their east front during the winter war.

A further study was made, the results of which were announced on April 23d. It was now believed that the total German forces could be classified as follows:

New levies, mostly above- and below-age	900,000
Taken out of industries, all ages	500,000
Rumanians, Italians, Finns, and similar vassals	500,000
<b>Total Axis forces in Rustia</b>	<b>1,900,000</b>
<b>German forces elsewhere</b>	<b>200,000</b>
<b>Aggregate, all German forces (including vassals)</b>	<b>2,100,000</b>

These figures were represented as showing that the German army had greatly deteriorated during the past year, due to the alleged extraordinary losses in the Russian war; further, that the Germans had practically no reserves left, and that consequently if the Allies would only open another front it would be absolutely necessary for Germany to withdraw troops from Russia to meet it. It also seemed apparent that due to the withdrawal of such a large number of trained men from industries, the industrial production of the Axis had passed its zenith and would hereafter decline.

The Russian conclusion was that if the United Nations now made an all-out effort by attacking the Axis with every last man and weapon, it might be possible to knock Germany out of the war in 1942. Stalin gave a summary of this view on May 1st when in his May Day speech he stated:

**"It is undoubted, first of all, that Fascist Germany and her army is weaker now than ten months ago . . . reserves in Germany are reaching their end. The German people are becoming more and more conscious of the defeat of Germany . . . the only outlet from the position in which they now find themselves is the freeing of Germany from the free-booting clique of Hitler and Goering . . .**

**"In all occupied countries sabotage in war factories, burning of German stores, wrecking of German war trains, and the killing of German officers and men have become the rule. Soviet territories occupied by Germans are in the grip of the guerrilla movement . . . (The German) old and experienced generals—Reichenau, Brauschitz, Todt, and others—are either killed by the Red Army or dismissed by the Fascist chiefs. Officer cadres are either destroyed by the Red Army or have been decimated by their conduct against civilian populations.**

**". . . during the war our country has become stronger . . . the Soviet country is more united around its government than it has ever been. Our country is one vast camp."**

There was relatively little fighting and practically no change in the lines during April. Renewed attempts were made by the large Russian force in the Kerch Peninsula to advance toward Sevastopol, but they had no success. The sieges of the "entrapped German 16th Army" at Staraya Russa and Kholm occupied the entire attention of the expedition whose original mission had been the relief of Leningrad. In the first week of May the Germans advanced and relieved their comrades at Staraya Russa, the Russians in that sector falling back to the Valdai Hills. During all this time the Axis carefully completed preparations, mostly in the Ukraine, for a resumption of their offensive to be launched during the summer of 1942.

So ended the Winter War of Russia for 1941-1942. The Germans announced that their losses for the entire winter included 88,977 killed and 26,319 missing. The number of wounded has not been announced.

## COMMENTS

The German renouncement of the offensive in December, 1941, which has been commonly construed as a sign of weakness, may on the contrary have been a sign of strength. For the Axis there was no necessity to attack. The Axis mission was the securing of certain Russian resources—food, minerals, power, industries—all located in the Ukraine (a highly developed area) and all completely in Axis possession well before the winter started. Exploitation of this valuable region, which had been largely devastated by the retreating enemy, was required to make it useful, but no further offensive was needed.

The widely spread idea that the Axis *must* conquer Caucasia in order to obtain oil or else lose the war (most commentators fix even the date for this) is not supported by available evidence. No reliable information has yet come out to show that Germany is short of oil. She may be, and it is hoped that this is the case, but it has not been proved. As far as is now known, the Axis may have no major objective far beyond the Ukraine. Having accomplished this mission, further military operations may more properly be directed towards the overthrow of any government or armies remaining in Russia, whose continuing existence might threaten to recapture the Ukraine. This view is without prejudice to the fact that, if possible to do so, certain additional territorial acquisitions might be useful to the Axis cause.

The plan of the Russian High Command for the winter war was based on the assumption, not borne out by the subsequent events, that the German armies were weakening and unable to continue with a supposedly impossible mission. The initial withdrawals of enemy troops in certain sectors for a time supported this hypothesis.

A careful examination of the results of the winter now disclose that the Russians failed to recapture any important locality and captured no great numbers of the enemy. Of the three major offensives of Russia:

*a.* That toward the relief of Leningrad completely failed;

*b.* That westward from Moscow reoccupied considerable territory, but by February was stopped at the German main line of resistance;

*c.* That toward the relief of Sevastopol failed.

The last-named offensive was the most ambitious. If the two sea expeditions landed respectively north and east of Sevastopol had advanced at the same time to the relief of the fortress and had been accompanied by the simultaneous advance of the important force detailed to march from the Donets River area toward Perekop and sorties by the very large Sevastopol garrison, it might have succeeded. But each of the three relieving forces attacked separately at different times, and each was in turn overwhelmed by the Axis.

Russian estimates as to the exhaustion of German reserves and her consequently materially weaker strength in 1942 as compared with 1941 is subject to considerable doubt. The estimates appear to be based on Russian reports of Germans killed, stated to have been around 3,500,000 men for the war. How they arrived at this figure is not known, but it in no way corresponds with the German report which gives the number of their killed to include the winter war as 251,291, to which should be added 59,953 missing (presumed to be dead, as the Russians report but very few prisoners). The German figures may be understatement, but it is impossible to establish this. They may be correct, and if so the usual annual German levy, now exceeding 700,000 men per annum, would more than replace the permanent casualties of 1941. It does not seem at all certain that the Axis armies are weaker in 1942 than in 1941.

No allowance was made for any increase in strength of the Axis vassal states. Since last year, the three Baltic countries have been added. Separately the vassals are not important, but collectively they number well over 50,000,000 people and can furnish a substantial number of divisions. Their combined strength can not be overlooked.

---

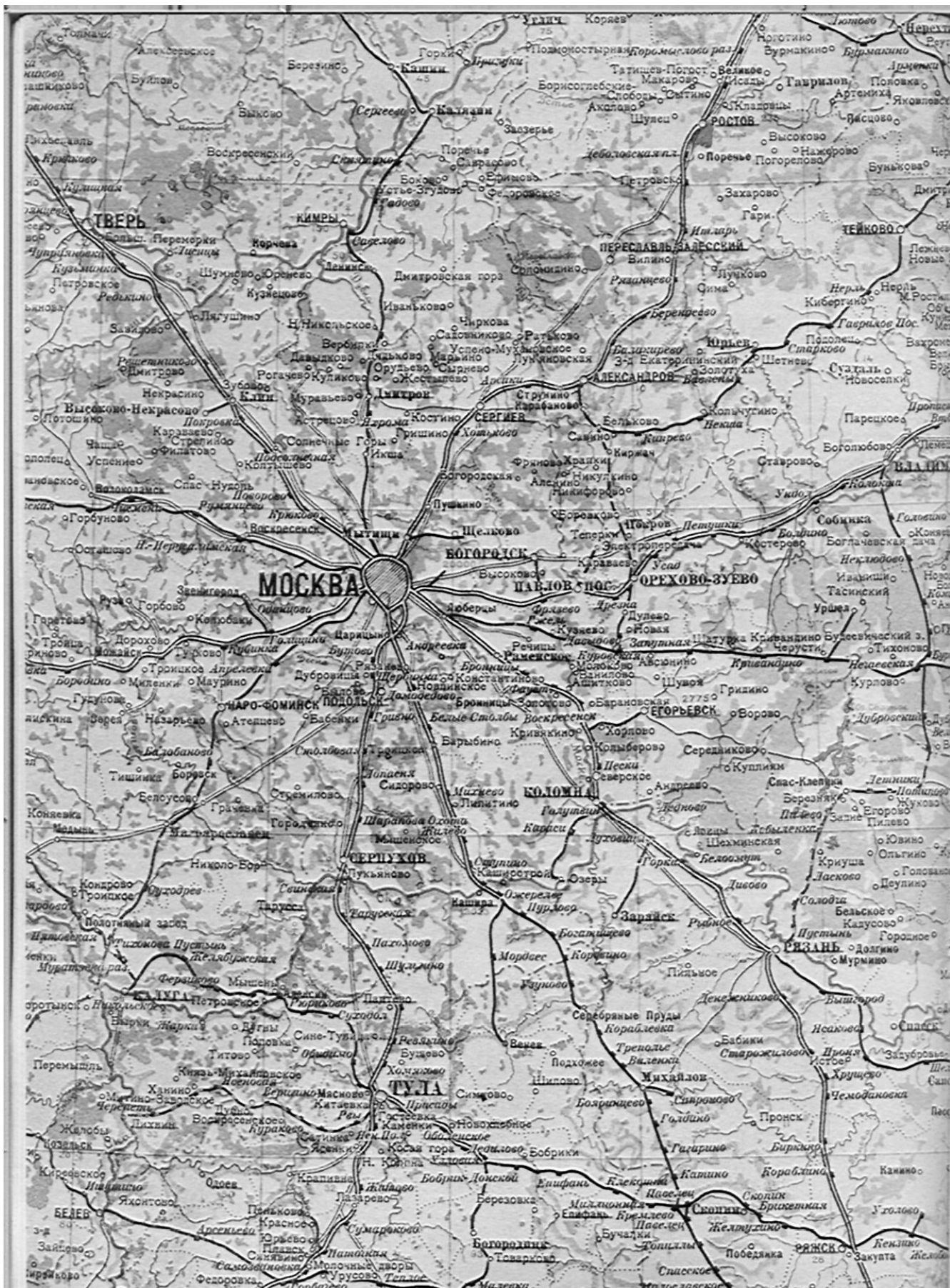
Perhaps you're one of those fellows who likes to sign his name G. MOORE or the like, and without thinking fails to give any other identification. We go to our files and turn to M-O-O-R-E. Here they are: *George Moore, George B. Moore, George E. Moore, G. E. Moore.*

The officer who wrote his letter and signed it *G. Moore* had a legitimate complaint. We weigh all the probabilities and answer one of the Moores. Of course, with our luck, a letter comes back exclaiming that this Moore didn't write to us at all, in fact, never thought about us. Eventually we hit on the right Moore and about 6 weeks after the original letter reaches us we get a letter off to his old address; but he is gone without notifying us of a change, so we finally give up and turn to a new letter which asks for a change of address and signs a beautifully typed letter *R. Brown.*

Our files show *R. E. Brown, Ralph E. Brown, Ralph O. Brown, Robert E. Brown, Robert W. Brown.*

We try to single one out by comparing ranks but have no luck. Perhaps unit designation would have helped, but his letter doesn't show one. In despair we turn to a newly arrived card signed *E. Smith* and tear our hair when the records show 5 of them.

No doubt you have the idea by this time, so we won't go into the dozens of them we have laying around lacking proper identification. We have many, many thousands of names to keep up-to-date. When yours comes in, be sure you give sufficient data to let us definitely locate you.





# Approach to Foreign Map Reading

By Lieut. Robert B. Rigg, Cav.

*Republished from "The Military Engineer"*

Occasion to use foreign maps grows more imminent daily. While our own Army agencies will provide the major portion of aerial photographs and maps of the theater of operations there will be numerous times when local source material will be used. This is especially so in providing early provisional maps. In these and in other maps, we will make use of the foreign (local) sources as the framework upon which the new maps will be based. There is also the chance that groups may work with other Allied Forces, and have occasion to use their maps extensively. This is too deep a subject to be covered here in anything but generalities, with an occasional examination of detail. It is hoped that this discussion will aid the junior officer who may work with foreign maps.

## STEPS IN OBSERVATION

Generally, by the time an officer receives a map, he needs it and must be able to make the best use of it immediately. The steps outlined below will serve to give the map observer a knowledge of the accuracy and character of the map.

*Date:* Always look for the date on a map first. If not in the legend it may appear in the margin or on the map border. There are four general dates, one or more of which generally appears on most maps. These are the dates of: 1. Survey or Compilation; 2. Publication or Printing; 3. Reprinting; 4. Revision.

The date of survey or of compilation is the date to be sought as either will indicate the timeliness of the map information. In most cases the date of survey will not be stated because the map may contain areas surveyed at various dates; the survey date appears most generally when one survey covers the entire map area. The date of compilation is then the next best key on which to rely. Depending upon the agencies and sources available it will take anytime from three months to several years to compile, draw, and print a map. Foreign map production is a much longer process than ours.

The date of publication or printing is the most common date to be found on foreign maps. Most of the information is usually at least a year old by the time of publication.

The reprinting date too often misleads the observer by making him think it is the date of the map's origin or

publication. One reason for this is that some publishers are not careful to state that such a date is the one of reprinting; they often just replace the old date.

Revision dates, the publisher is anxious to have known, so they are generally conspicuous. This does not, however, mean that the entire map was redrawn, and in too many instances the revision date is applied when only a few (even one) spot changes have been made. Another case in which a revision date will appear is in the event of revision of special information such as population symbols. Another example of special revision is in the case of a map showing airlines in a special color. This information if corrected would normally affect only this one color and the date of revision should appear in it.

A great deal can be determined from the analysis of one of these dates, and the observer should never fail to look for these first. Use cautiously the map without a date. Do not be misled by the freshness of a map's printing; it may be a reprint of a map many years old.

*Publisher:* The next step is to note whether the publisher is military, civilian, or governmental; this will give a good general idea as to the map's accuracy and dependability. Maps published by a government or the military are the most accurate. Exceptions should be cited, however. These are governments who seek territorial gains. They generally establish part of their claims on the basis of their own maps and must thus speak an untruth, for in a border dispute it is invariably the case that each side extends its boundary into the other's area. In this instance a neutral country will come the closest to showing the truth.

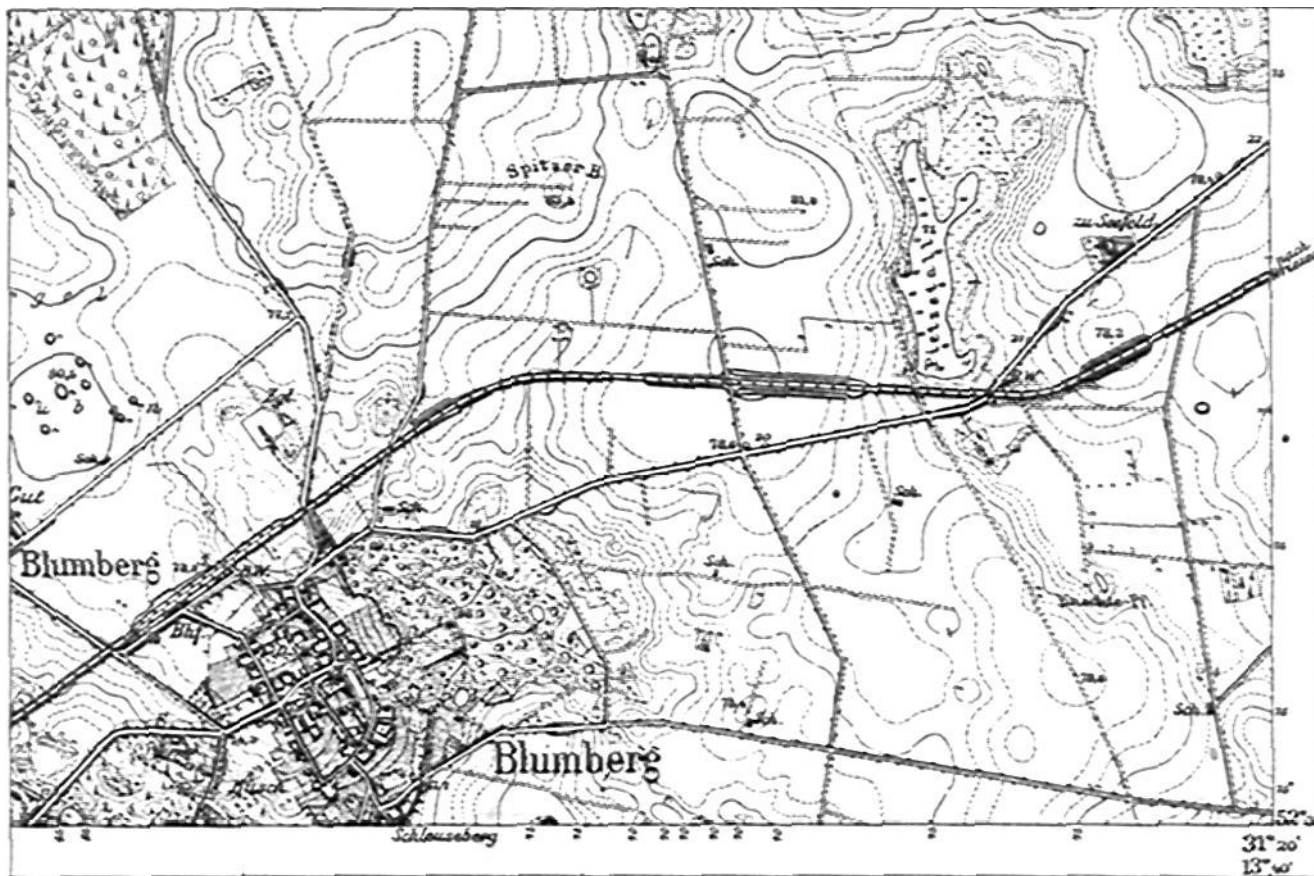
Maps produced by a government are made from more complete source material if not from original surveys. Civilian firms too often engage in producing general maps, and only a few have any real source material. German firms, however, have produced some very excellent detailed maps, but in most instances a commercial firm can not afford the research that a government can.

Boundary commissions will often produce accurate and detailed maps, but these cover only a narrow strip along the boundary line.

*Composition:* The third consideration would be to study the map's composition. Composition reveals to a good extent a map's accuracy. (A good publisher will sometimes make a poor map.) Observe the placement of names on mountain ranges. Look at the formation and placement of various symbols. In towns along rivers are the symbols properly placed? Is the draftsmanship of the map careful? Is the coastline detailed or general? These and many other items can reveal

### TYPICAL RUSSIAN CARTOGRAPHY

*The map opposite shows the area around Moskva, scale 1:1,500,000, from a Russian atlas. Though detailed the map has good clarity.*



German Map, Scale 1:25,000, typical of type used by German troops in combat.

the care taken in the cartography of the map. Except for field sketches, a map with worthwhile information on it rates careful cartography and draftsmanship. Do not depend too much upon one which is haphazardly composed or drawn.

*Coloring:* Next observe the map's coloring. The school teacher and layman want maps brilliantly colored, and in this they too often forget one of the most important requisites of a good map: legibility. If the map contains detail yet is strong or garish in its coloring, its makers perhaps lacked the proper concept of some other important feature of their map. Foreign maps are more liberal in the use of color than United States maps. The only place a strong color is useful on a map is in portraying a special subject. Here the importance of one subject must warrant cancelling the others. In topographical maps no one subject should cancel another.

#### DECODING GEOGRAPHICAL TERMS

The observer now wants to start reading his map. Already he will have encompassed some of the map's detail, and should, at this stage have its reliability pretty well established. Should the reader not have at hand a table of geographical terms similar to the one accompanying this article then it would be advantageous for him to follow the procedure set forth in the following paragraphs.

Study the map culture by looking at one subject at a time. Take river names for instance. On a Spanish map the

term *Rio* would appear with such frequency that the reader could establish with certainty its meaning even if he had no knowledge of the language. A similar example can be cited in the case of French maps of northern Africa. Here the frequency of the term *Oued* along the intermittent stream symbol reveals that it is the French equivalent of the English *Wadi*. Both of these terms are the general African name for the type stream already mentioned.

In another instance, the frequency of the word *Göl* with names which apply to lakes in Turkey make it evident that this is the Turkish term for the English word lake. By looking the map over and comparing equal terms the observer can logically and accurately deduce many such geographical terms simply by associating them with their symbol and noting their frequency of occurrence. It is, of course, impossible to decipher all the map terms or symbols this way, but the unacquainted reader will surprise himself with the extent to which he can read a foreign map. The secret lies in the fact that maps and their symbols are a form of international language.

The above outline applies to maps using the Latin alphabet. By the time a reader has scrutinized a map by this process he will find very little unfamiliar to him and will be able to use it very well in making other maps. Only experience with it will reveal all the map has to show. No mention is made of the legend, but it is expected

that full use will be made of it in any case. As a general rule legends follow the same pattern. On European maps railroads are classified as to double tracked and in one or single track classification they are listed according to gauge. Cities and towns are listed in legends with symbols which generally classify them according to population.

FOREIGN MAP TERMS

A table containing the translations of English geographical terms will enable the layman to interpret the greater part of any map with text in the Latin alphabet. Such a table giving map terms in German, Danish, Norwegian, French, Spanish, Portuguese, and Italian is included at the end of this article.

It requires very little time to acquaint oneself with these terms as many of them bear close resemblance to the English form. All terms for a particular language ought to be committed to memory before using a map in that language. In the first study of the chart it is well to read horizontally in order to impress the general form, in all languages, upon one's mind.

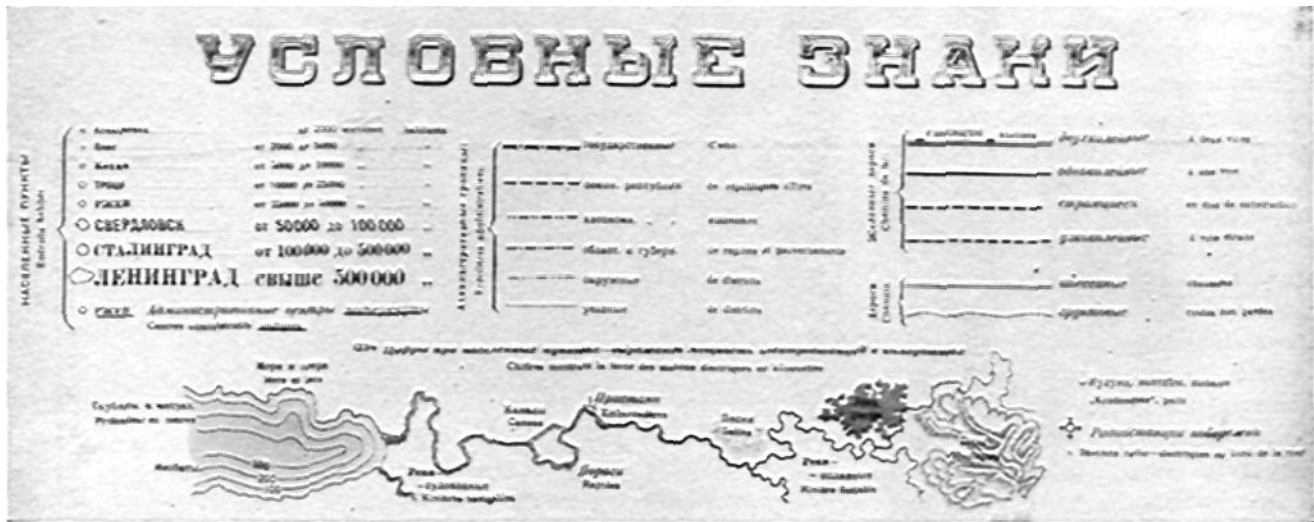
Use of this chart will eliminate such common errors as have appeared on some of our early school maps. Nearly every one has seen the name, *GOBI DESERT*, without realizing that the word, *GOBI*, means desert, and is not a

proper name. *NEFUD DESERT* in northern Arabia is a similar mistake. *SIERRA NEVADA MOUNTAINS* does not fool the Spanish student, but it has appeared in United States school texts. *CHISHIMA IS.*, is another common mistake on English maps, *SHIMA* being the Japanese word for islands. Other such errors which are rather common to our maps are: *HWANG HO RIVER* (*Ho* being one of the Chinese terms for the English word, river), and *AMU* or *SIR DARYA RIVER* in Turkestan where *DARYA* is the local equivalent of river. There are many other instances where a map term has been mistaken for a proper name.

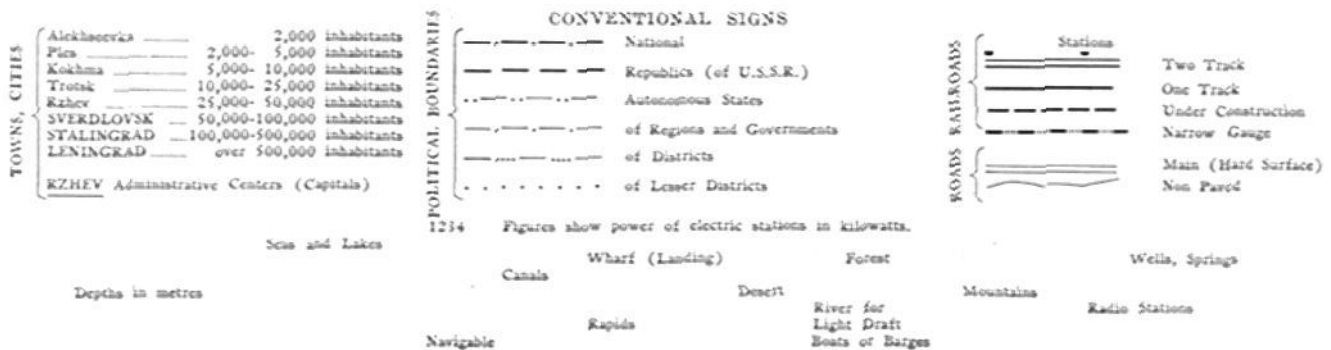
RENDERING FOREIGN GEOGRAPHICAL TERMS

For years English literature has handed to us such names as, Constantinople, Athens, Naples, Warsaw, et cetera. All of these are a conventional English rendition of the real names which are: Istanbul, Athēnai, Napoli, and Warzawa. However, we have accepted these incorrect forms, and our maps have carried them consistently.

The only correct form for a town or city name is the local or national spelling. By example, if the place is French (that is in France or one of its possessions) then only the French spelling of the local pronunciation is correct; if Greek, then only the Greek rendition is right.



Legend to Russian Map Shown in Frontispiece



English Translation of Legend

This makes the map name appear in the same form on all maps, not the English form on an English map and Russian form on a Russian, et cetera. For instance, *Warszawa* would thus appear as such on any nation's maps rather than *Warsaw* on an English map; *Warschau* on a German; and *Varshava* on a Russian. The following table illustrates the varying forms of one name when rendered in other languages:

English	Russian	German
New York†	Nyu-lork	Neu York
Moscow	Moskva†	Moskau
Vienna	Vena	Wien†

Most of the better maps today carry the local forms for town and city names. Gradually the local forms of other names, such as rivers, lakes, mountain ranges, capes, et cetera, are being shown. Eventually, when this process is complete, the names of nations will be in their national form, and instead of Finland, Norway, Belgium, Greece, et cetera, all maps will carry the names of Suomi, Norge, België, and Hellás.

In using any foreign map, see if it observes the correct rule of using the local form in countries adjacent to it. A Spanish map of Europe should render all names within the boundaries of a particular country in the form used by that nation. For oceans, large seas, and continental names the Spanish form would be in order as these names belong to no particular nation. German maps do not always observe the rule of spelling names in adjacent countries in their local form, but choose to put the German form on all they can. This has, in recent years, been a part of the campaign to educate Germans to think of the world as being dominated by Germany.

#### THE LATIN ALPHABET AS USED BY OTHER NATIONS

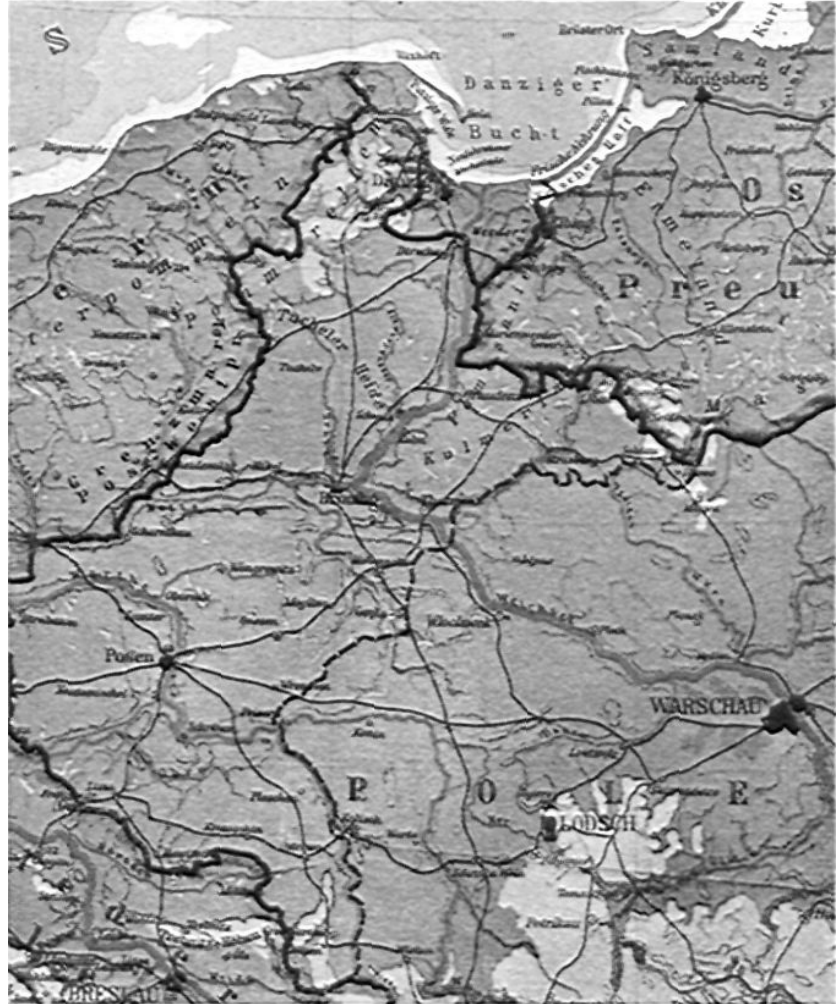
Knowledge of some of the peculiarities and additions which exist with the Latin alphabet as used by other nations will help further to understand foreign map names. Without intention to develop the pronunciation angle, here are the main exceptions to the Latin alphabet as we use it. All languages which are classified here use the Latin alphabet.

#### Teutonic Languages—

GERMAN. The sign · · is used over *a*, *o*, *u*, to alter the

†Correct form.

sound. Capital *Ä*, *Ö*, *Ü*, are sometimes written *Ae*, *Oe*, *Ue*. The symbol *ß* is used for *ss*. DANISH. Adds *æ* and *ø* (used to be written *o* or *œ*, often seen now as *ò*) to end of the Latin alphabet. The letter *j* is being abolished except for



SECTION OF GERMAN WALL MAP

Note that Polish names are in German form. Breslau and Danzig are correct in German form because they are in German territory. Compare with Polish map on next page.

place names; *c*, *q*, and *w* are found only in words of foreign origin. NORWEGIAN was originally Danish, and is almost the same. (Add *c*, *q*, *w*, *x*, and *z* in foreign words only.) *Ks* is often used for *x*.

SWEDISH. Adds *ā*, *ä*, and *ö* at the end of the alphabet. Words of foreign origin only use *c*, (except for *ck*), *q*, *w*, and *z*.

DUTCH. The letters *c* (*ch*, *sch* are the only exceptions), *q*, *x*, and *y* occur in foreign words only; *y*, however, was used for *ij*.

ICELANDIC. Adds *æ* and *ö* along with two special characters for *dh* and *th* (*Ð*, *ð* and *þ*). There is no *w*. Little used are the letters *c*, *q*, and *z*. The acute accent used

over vowels alters phonetic value.

**GAELIC.** This is a Keltic language. It uses the Latin alphabet but omits *j, k, q, v, w, x, y, z*.

*Romance Languages—*

**SPANISH.** (Castilian) No exceptions except for *ñ* which affects pronunciation.



*POLISH MAP OF NORTHWEST POLAND AND PORTION OF GERMANY*

*This map renders the German names in Polish form. Compare with German map of same area on opposite page.*

**ITALIAN.** Omits *k, w, x,* and *y*.

**PORTUGUESE.** Uses Latin alphabet adding diacriticals affecting sound.

**ROMANIAN.** Alphabet same except diacriticals to represent Slavonic sounds. (*k, y* only in foreign words.)

Other Romance languages not considered important enough to detail here are: Catalan, Provençal, Rhaetic Sardinian, and Walloon.

*Slavonic Languages—*

Some use the Latin and some the Cyrillic alphabet. Only those using the former are listed here.

**SERBO-CROATIAN.** These two languages are almost the same, the exception being that Serbian is written in the Cyrillic (differing slightly from those of Great Russian) while Croatian is written in Latin characters with diacritical signs modifying the phonetics.

**SLOVENE.** (Slovenski) Very closely related to Croatian, but omitting *d, č, g*.

**BOHEMIAN,** or **ČESKY.** Latin alphabet with diacriticals. Letters *f, g, q,* and *x* occur in words of foreign origin only. Uses the diacriticals *ˇ, ~, ¨,* and *˘*.

**SLOVAK.** (Slovensky) Closely related to Česky, but omitting three letters of the latter and adding three of its own. These are the Česky *ě, ř, ů,* and *ä, ρ, ô*.

**POLISH.** Has the Latin alphabet less *q, v,* and *x*. Combines letters.

**ALBANIAN** is not considered a Slavonic language, but is mentioned because of its peculiar character. It adopted the Latin alphabet in 1908 after undergoing a long period of confusion resulting from the combined use of the Greek and Turkish alphabets. As used today the Latin alphabet is simpler than the previous two, but the name situation is too complex for treatment here.

**FINNISH** is one of the Finno-Ugrian languages, and is closely related to Magyar (Hungarian). It omits *c, q, x,* and *z*. It uses *b, f,* and *g* (except in *ng*) only in foreign words. Combines letters also. Since Finland gained its independence their maps have used Finnish and not the old Russian forms of place names.

#### TRANSLITERATION

Languages of countries which do not use the Latin alphabet require transliteration. This is the process of transposing the letters of a name from one alphabet to another.

Transliteration is done from tables which list the foreign alphabet and its English equivalent. Much study has

been devoted to the subject and these tables should be accepted without question.

The Royal Geographical Society of England publishes a text on this subject which is titled, *Alphabets of Foreign Languages (RGS Technical Series No. 2)*, which contains the official British tables of transliteration. It is used by the British Army and all government agencies in map making.

The United States Department of Commerce publishes a similar text which serves in somewhat the same capacity in this country. It is titled *Foreign Languages* and is obtainable at the Government Printing Office,

Washington, D. C. There are a few differences between the two publications in the transliteration of certain foreign letters. However, our publication should be the authority in such differences. These two booklets list practically all of the main languages in the world with the English equivalents of all the foreign letters or characters.

The following are two examples of the use of such a table, the first in Russian; the second in Greek:

The Russian map name *ОДЕЦКА* when transliterated into the Latin alphabet appears as *ODESSA*.

The Greek 'Αθρ. vζ.' appearing on a map would not look familiar until transliterated into the Latin alphabet when it would result in *ATHÉNAI*.

The alphabet least removed from our own (Latin) is the Cyrillic. The Greek alphabet has only a few letters identical to our own, and thus a step beyond the Cyrillic. The Irish alphabet also requires transliteration as it is much different from the Latin. Asiatic and African scripts, such as Arabic and Amharic, represent more difficult languages to transliterate than the ones already mentioned.

The Cyrillic is based on the Greek, but uses a few Latin letters. Some of its characters are of unknown origin. Russian is the principal Slavonic language using this alphabet. Bulgaria uses an alphabet simplified somewhat from the Great Russian. Ruthenian and Ukrainian also use the Cyrillic, but they differ from Russian in omitting some letters.

#### FOREIGN MAPS IN GENERAL

The following are generalities of the cartography of some foreign nations:

German cartography is thorough and extremely detailed. Maps are accurate, but their detail too often destroys clarity. They use contours, shading, and hachuring to portray relief. They are experts at hachuring and use it extensively, often in a heavy color. Their symbols are well conceived, and on topographical maps they are extensive. They have studied the geography of the world and have produced excellent maps of some portions of it. Europe they have mapped thoroughly.

French maps are likewise accurate, and in recent years they have achieved a very likeable clarity. Their study of



Portion of French map, scale 1:200,000, used in World War I

geography has also been comprehensive. They have been very careful in mapping their colonial possessions. At the start of this present conflict the best maps of the northern two thirds of Africa were French.

British maps have an excellent standard of cartography. They have been compelled by the nature and extent of their many far off possessions to study geography and produce maps. Likewise, they have pioneered in the study of foreign place names, and in the transliteration of such. They have produced the best of the few maps which exist for such little known countries as Tibet, Sinkiang, Afghanistan, and parts of Ethiopia. Nomenclature and symbols are clear and concise.

Netherlands (Dutch) maps are likewise of high standards. Their maps contain a wealth of detail, yet possess good clarity. Their maps of the Netherlands East Indies are excellent.

Belgian maps are similar to those of the Netherlands.

Italians have increased their mapping activities since World War I. They have been active in producing new maps of North Africa, and had good maps of the little-mapped Ethiopia when they started their conquest of that nation. They have a tendency to use the Italian form on foreign names.

Spanish maps (of Spain and its possessions) are few and poor compared with those of other nations. They have not been very energetic, and their maps reflect this lack of application.

Danish, Norwegian, Swedish, and Finnish maps resemble one another in their clear style of cartography. They use very little color, but produce good maps.

Russian maps have been difficult to obtain during the past twenty years, but the Russians have been active in map making. They maintain an excellent standard of draftsmanship and to all visible standards their maps are very accurate. Symbols are often complex, and town symbols are keyed to populations. In the Siberian area roads and trails are shown in terms of summer or winter use.

Turkish maps before World War I used the Arabic script. Since then, some maps have appeared in French and English texts. Except for the past two decades they have been backward in the production of maps.

All British, French, Netherlands, and Belgian colonies throughout the world have been mapped to a fair degree. Europe is still the best and most thoroughly mapped section of the world.

## CONCLUSION

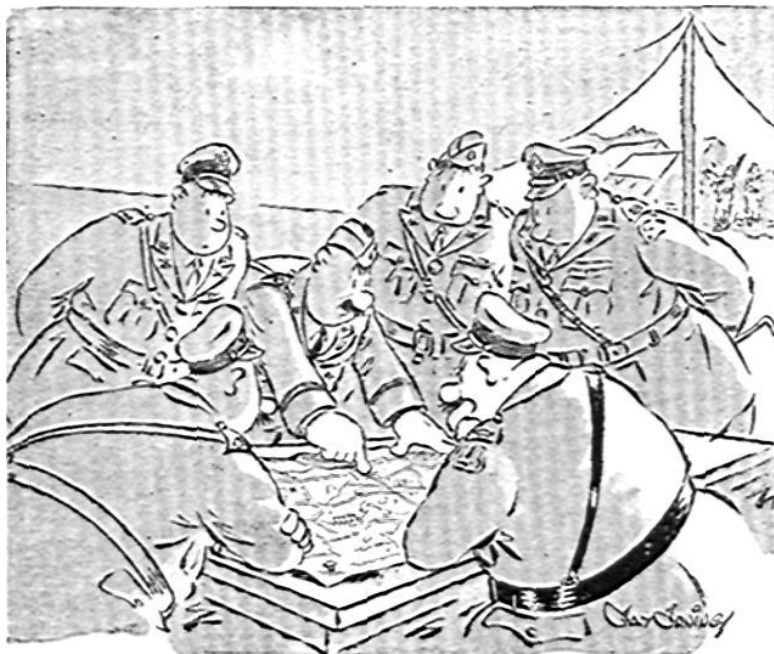
No person can deny that the aerial photograph, or photo map, is the best suited for military purposes, because of its

timeliness. However, the photo map must be supplemented and controlled by maps of various kinds. The United States has had too big a problem in mapping its own territory to concern itself with the mapping of other sections of the world. Furthermore, our possessions are no longer the main theaters of operation. Thus, in operating on foreign soil we may find ourselves making use of foreign maps.

## TRANSLATION OF ENGLISH GEOGRAPHICAL TERMS

<i>English</i>	<i>German</i>	<i>Norwegian</i>	<i>French</i>	<i>Spanish</i>	<i>Portuguese</i>	<i>Italian</i>
City, town	Stadt	stad, by	ville	ciudad	cidade	città, civita
Borough	flecken	flaekke	bourg	villa	villa	borgo
Village	dorf	landsby	village	pueblo, lugar	villagem, aldeia	villaggio
Hamlet	weiler	torp	hameau	hacienda	casal	casale
Fortress, fort	festung, fort	faestning	forteresse, fort	fuerte, presidio	fortaleza, forte	fortezza, forte
Gate	tor	port	porte	puerta	porta	porta
Castle, palace	schloss	slot	château	castillo	castello	castello
House	haus	huus	maison	casa	casa	casa
Bridge	brücke	bro	pont	puente	ponte	ponte
Land	land	land	pays, terre	tierra	terra	terra, paese
Coast, shore	küste	kyst	côte	costa	costa	lido, riviera
Island	insel	ø	île	isla	ilha	isola
Peninsula	halbinsel	halvø	presqu 'île	peninsula	peninsula	penisola
Plain, field	ebene, feld	slette, mark	plaine, champ	llano	plano	pianura, campo
Desert	wüste	ørk	désert	desierto	deserto	deserto
Heath	steppe	steppe	lande, prairie	páramo	sertão	landa
Fen, marsh, swamp	sumpf	sump	marais	pantano	pantano	palude, maremma
Forest, wood	wald	skov	forêt	selva	selva	foresta, boseo
Plateau	hochebene	høislette, fjeld	plateau	meseta	plamura, planalto	altipiano
Mountains	gebirge	bjergkjaede	montagne	montaña	serra	montagna
Chain, range	bergkette, höhenzug	bjergkjaede	chaîne de mont	sierra, cordillera	serrania	catena
Cape	vorgebirge, kap	forbjerg	cap, pointe	cabo, punta	cabo	capo
Rock	felsen	klippe	rocher	roca, peña	rocha, penha	rocca, sasso
Mount	berg	bjerg	mont	monte	monte	monte
Peak	bergspitze	tind (-top)	pic, cime	pico, cerro	pico	cima
Pass	pass	pas	col	cumbre	passo	passo, colle
Valley	tal	dal	vallée, val	pueblo	valle	valle, val
North	nord	nord	nord	valle	norte	nord
South	süd	syd	sud	sur	norte	nord
East	ost	øst	est	sur	sul	sud
West	west	vest	ouest	este	este	levante
Snow (snowy)	schnee (ig)	snee	neige	oeste	oeste	ponente
Water	wasser	vand	eau	nieve (nevado)	neve	neve
Spring, well	quelle, brunnen	kilde	source, puits	agua	agõa	acqua
Rivulet, brook, creek	bach	baek	ruisseau	fuelle	fonte, poço	fonte, sorgente
River	fluss, strom	flod	fleuve, rivière	arroyo	ribeiro	rivo
Mouth	mündung	mynding	bouche	rio	rio	fiume
				boca	boca	bocca (bocche)

<i>English</i>	<i>German</i>	<i>Norwegian</i>	<i>French</i>	<i>Spanish</i>	<i>Portuguese</i>	<i>Italian</i>
Lake	see	sø	lac	lago	lago	lago
Sea	meer, see	hav	mer	mar	mar	mar, mare
Gulf	meerbussen	havbugt	golfe	golfo	golpho	golfo
Bay, bight	bai, bucht	fjord, bugt	baie	bahia	bahia	baia, seno
Sound, channel	sund, kanal	sund				
Straits	strasse	straede	détroit, canal	estrecho	estreito	stretto bocche, canale
Lagoon	haff, lagune	haff	lagune, étang	laguna	lagõa	laguna, stagno
Port, harbor	hafen	havn	port	puerto	porto	porto
Great, big, large	gross	stor	grand	grande (gran)	grande (gran)	grande (gran)
Little, small	klein	ille	petit	pequeño, menor	pequeno	piccolo
Long	lang	lang	long	largo	longo	lungo
High	hoch	höi	haut	alto	alto	alto
Upper	ober	övre	haut, supérieur	alto	alto	superiore
Lower	unter	nedre	bas, inférieur	bajo	baixo	inferiore
Old	alt	gammel	vieux	viejo	vielho	vecchio
New	neu	ny	neuf	nuevo	novu	nuovo
White	weiss	hvid	blanc	blanco	branco	bianco
Black	schwarz	sort	noir	negro	negro, preto	nero
Red	rot	röd	rouge	rojo, bermejo	roxo, vermelho	rosso
Green	grün	grön	vert	verde	verde	verde
Blue	blau	blaa	bleu	azul	azul	azzurro
Yellow	gelb	gul	jaune	amarillo	amarello	giallo
Fine, fair	schön	skjön	beau	bello, hermoso	bello, formoso	bello
Saint	heilig	hellig	saint	santo, san	são	santo. san



"H-m-m-m . . . that's a toll bridge . . . m-m-m-m, eight thousand men . . . and all our trucks . . . m-m-m-m . . ." JAV ??





*The peak of Kazbek, the second highest mountain of the Caucasus.*

## **THE CAUCASIAN ISTHMUS** **(Land Bridge from Europe to Asia)**

By Capt. Arthur Henry Moehlman

### SIGNIFICANCE IN GEO-STRATEGY

Between the Black Sea and the Caspian Sea lies the Caucasian Isthmus, one of the most vital areas on the whole globe at present. This land bridge from Europe to Asia affords a gateway from broad plains through Caucasian mountain passes to the Persian Gulf. The Caucasian Isthmus, therefore, is a corridor of advance for the Axis powers to the southern edge of the Eurasian Continent which should be called THE STRATEGIC RIM in terms of Geo-strategy. Geo-strategy is defined in this paper as strategy on a world scale, based on the factors of time and space, logistics and tactics. The Germans have always believed in the idea of a strategy based on the central area of the Eurasian Continent as the turning point of history. This central area from the Black Sea to Lake Baikal is regarded as the strategic center of the Eurasian Continent. It is the area from which most of the great peoples burst forth and attempted to control that continent. The power of this *strategic center* has, in the past, always been contained within that area and has never been able to break out in order to control the world area.

This strategic rim extends from Gibraltar across North Africa to the "land plug" of Arabia, with its corridors of advance through the "Fertile Crescent" and the Persian Gulf to the north and through the Suez-Red Sea-Aden

waterway to the south, to the coast of sub-continental India, the Malayan Peninsula and East Indies, and thence northeastward to the Aleutian Islands.

When key points along this strategic rim, such as Gibraltar, Malta, Egypt, the Persian Gulf, Ceylon, Singapore, or the Aleutians, are held by outside powers, then the Axis powers are, in effect, "prisoners of the strategic rim." The Axis powers have been attempting to break out. Japan has broken out through the key points in the strategic rim all the way from the Aleutians to Singapore and the Burmese coast, and not long ago threatened even Ceylon. Germany has shattered the rim in the Mediterranean area and now has powerful forces driving toward the corridors of advance north and south of the Arabian "land plug."

Thus the Caucasian Isthmus is a crucial gateway through which the Axis powers might burst through the center of the strategic rim and even join hands with the Japanese, these powers then complementing each other's resources and becoming sufficiently powerful to wage war for a long time to come. Once the Axis powers gain control of this as-yet-unbroken central area of the strategic rim, operations on the outer fringe of the Eurasian Continent become battles of attrition which begin to work not against the Axis powers, but against the United Nations; therefore, it is believed that the central strategic

area must be held at all costs to prevent control of the strategic rim and to make the battles of the United Nations on the outer fringe become battles of attrition working against the Axis powers. We must keep them prisoners of the strategic rim. The Caucasian Isthmus is a vital key in this effort.

In addition to being a crucial strategic center, the Caucasus contains enormous economic wealth within its own borders. Vast resources of oil lie both north and south of the Caucasian Mountains. One of the world's greatest deposits of manganese is in the Rion valley. The climate permits raising all sorts of crops, ranging from wheat in the northern plains to vineyards, fruits, cotton, and rubber in the Mediterranean and sub-tropical climate of the southern valleys.

This land bridge has always been a corridor for advance either out of Asia into Europe or from Europe into Asia, and a patchwork quilt of races has resulted. Within this pattern are Germans and Turkish peoples. There is fertile ground for fifth column activities. The major advances have been made through the Derbent Gate on the eastern edge of the mountains along the shore of the Caspian or over the great central pass below Mt. Kazbek.

#### HISTORY OF THIS CORRIDOR

The history of this land bridge and corridor of advance has been long and fascinating. Greek mythology used the Caucasus as the locale for some of its greatest stories. Prometheus is supposed to have been chained to its mountains as a punishment for his gift of fire to humankind. Jason in his pursuit of the Golden Fleece came to the lowlands of the Rion River in the western part of the Caucasian valley called Colchis, and had his troubles with Medea—or more properly speaking, she with him. Large Greek settlements were established here from the Ionian cities. The Romans knew the Caucasus but had little success in invading it under either Pompey or Trajan. In the 10th Century, Vikings who had been Russianized (the so-called Varangians) sailed down the Volga and along the shores of the Caspian around the Apsheron Peninsula to capture Barda.

For hundreds of years invading Asiatics passed through the country. One of the most famous military campaigns in history, that of Ghengis Khan, moved toward its western limit through this area. Subotai, one of his marshals, led the blitz forces of that time—fast-moving, self-contained mounted units employing flanking tactics—through the fastnesses of the Caucasian Mountains to strike deep into the heart of Europe near Liegnitz in Silesia. The remaining history of the Caucasus up to the end of the 19th Century was one of resistance against Russian aggression by the various Caucasian tribesmen in their mountain retreats. The Russians finally subdued the area only in the 19th Century.

In the first World War, it was the starting point for campaigns of a Russian Army under the Grand Duke which resulted in the taking of Erzerum from the Turks.

The Russian Revolution led to the formation of so-called Soviet Socialist Republics in this area, notably those of Georgia, Azerbaijan, and Daghestan. And now the armored, motorized, and infantry divisions of the Axis powers are driving southward through the Isthmus.

#### GEOGRAPHY

The geography of the Caucasus, seen from the air, is that of a great isthmus bounded on the north by a line running from the mouth of the Don to the Volga delta, on the west by the Black Sea, on the east by the Caspian, and on the south by the Armenian Highlands at the crest of the slope leading down to the Persian Gulf. The isthmus is bisected from east to west by the great wall of the snow-capped Caucasian Mountains, which are higher than the Alps and resemble the Pyrenees in their unbroken line. They form the dividing line between rolling grasslands with a European culture and climate, and deep valleys with an oriental climate and culture.

To the north of the mountains treeless, grassy plains slope gently down to the salt marshes of the Manych depression, once the old sea bed joining the Sea of Azov and the Caspian and recently the site of great reclamation activities. These grassy plains of the North Caucasus are traversed by the Kuban River to the west and the Terek and the Kuma to the east.

To the south of the mountain wall lies Trans-Caucasia, a valley divided by the Suram Range into a western third, through which the Rion River flows toward the Black sea, and an eastern two-thirds through which the Kura flows toward the Caspian Sea. Further south are the high Armenian Highlands with their badlands and lakes. Each of these regions, the plains of the Northern Caucasus, the Caucasian Mountains, the valleys of Trans-Caucasia, and the Armenian Highlands, has its own relief, climate, and resources which can now be explored in more detail.

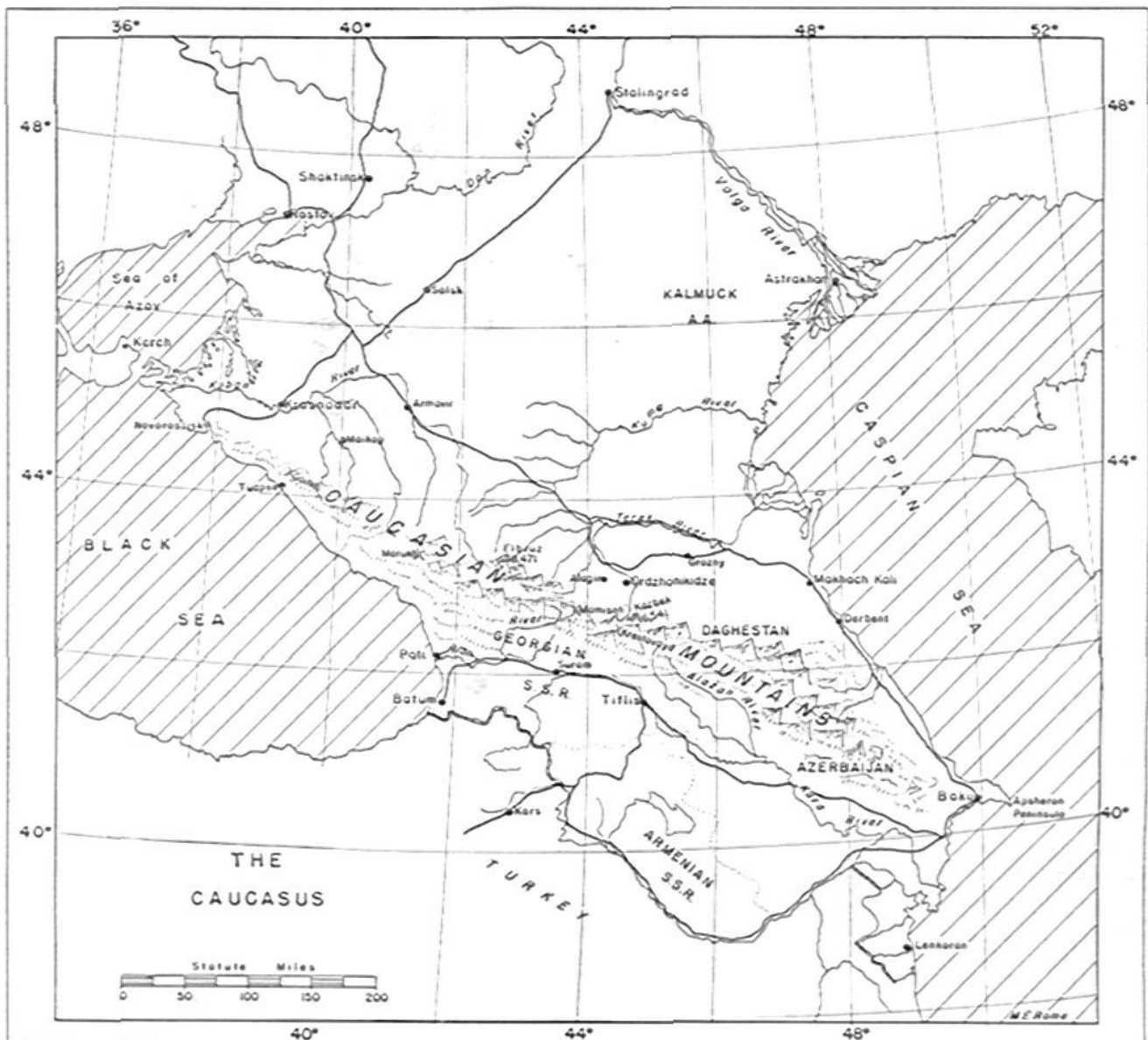
#### NORTH OR CIS-CAUCASIA

Invaders from the European plains striking into the Caucasus land bridge find the northern plains easy to traverse. Most of the area is a fertile plain sloping gradually up from the reclaimed salt areas of the Manych Depression into the foothills and northern slopes of the Caucasian Mountains. The Kuban Valley terminates in the west in marshes on the Sea of Azov, opposite the Kerch Peninsula. Here is the home of the Kuban Cossacks. The Kalmuck nomads live in the steppes sloping eastward down to the Caspian. Most of the area is treeless except near the streams, where oak and elm are found. In the southern area patches of mixed steppe and forest land in the foothills lead up into a continuous forest of oak, ash, beech, maple, and elm, above which are pines, firs, and birches which in turn give way to

alpine meadows. The climate is very similar to that of our Great Lakes, cold in winter and hot in summer. Its fertility and its position connecting the Black Sea and the Caspian attracted trading colonies from Mediterranean civilizations, peoples from the plateau of Iran and the Anatolian plateau, the Mongol and Tatar steppe dwellers, and Russians from the northwest. As a result, a great mixture of population exists. Over 80% are Russians; the rest are Greeks, Cherkess, Kalmucks, Poles, Persians, Turks, Tatars, Armenians, Czechs, Germans, and many others. Despite the patchwork quilt of races, there is a definite unity in the area, economically speaking.

Basically the North Caucasus is agricultural, but is being transformed by a process of industrialization. The southwest and west have rich black soils, good rainfall due to the Black Sea and Caucasus, and a long vegetative period producing excellent crops. There is an abundance of

streams and a long vegetative period in the Kuban Valley around Maikop and Krasnodar, 250 days with a temperature above 4° Centigrade as against about 200 days in the Donetz basin to the north. Toward the east and north the soils are chestnut colored with about 10% arid and salty sands unfit for agriculture; in this dryer area the climatic influences are continental with much colder winters. Summer wheat is the chief crop in the northern provinces, providing flour and macaroni. Winter wheat, barley, maize, rye, millet, and oats are the chief crops in the wetter southwest district. Sugar beets and sunflower seed are cultivated along the Kuban River. Vineyards are found near the Don, Kuban, and Terek. Tobacco is grown in the Black Sea and Kuban area. Cattle raising is mainly limited to the steppe and hill pasture meadows, and horses are bred in both the Kuban Valley and on the steppe. Fishing is carried on along the coastal area. Caviar is taken from the great



sturgeon of Sea of Azov and the Caspian near Astrakhan.

Mineral wealth is perhaps most important and includes the oil areas of Maikop and Grozny; lead ore in the upper Kuban; zinc, lead, and silver ores near Alagir; anthracite coal in the Shakhtinsk; and coal and iron ore on the north shore of Azov. Manufacturing is increasing and is centered as follows: refining of oil at Grozny and Maikop, foodstuffs in the Kuban, tobacco at Krasnodar and Armavir. The chief towns are Rostov-on-Don, Krasnodar, Ordzonikidze, Salsk, and Maikop. This region slopes up imperceptibly into the next.

#### THE CAUCASIAN MOUNTAINS

This range reaches from the Strait of Kerch on the northwest some 900 miles to the Caspian Sea, and varies from 130 to 140 miles in width. As said before, it is quite like the Pyrenees and unlike the Alps, maintaining a very high elevation which is not cleft by low, natural passes. The Western Caucasus parallels the Black Sea and has many glens and gorges densely clothed with vegetation. The spurs jut out steeply into the sea so that this coastal region is extremely rugged and inaccessible. The principal peaks rise to 10,000-12,000 feet with cliffs which overhang the coast to a height of some 2,000-3,000 feet. The snow line is about 9,000 feet on the highest summits and the few passes lie at 6,000 to 11,000 feet, so despite the gentle slope to the north, transport from the flat valley of Kuban to the Black Sea is extremely difficult. The ranges are capped with perpetual snow, and many large glaciers creep down the principal valleys.

The Middle Caucasus is the highest part of the entire range and has high glens through which glacial streams descend. Its peaks rise to Mt. Elborus's 18,471 feet at their highest point. There is a remarkable absence of waterfalls and nothing corresponding to the Swiss lakes. Further to the east in the Middle Caucasus the mountains reach their greatest breadth and keep an average elevation of 10,000 feet, though the peaks are 2,000-5,000 feet higher. On the northeast lies the broad, dry highland of Daghestan separated by deep river glens which cut it up into a number of treeless, arid plateaus.

The Eastern Caucasus slopes gradually down from the Baba-dagh 11,930 feet into the waters of the Caspian, ending in the famous peninsula of Apsheron. This section of the Caucasus retains no snow, and no peak is higher than 9,000 feet.

From a military point of view, the Caucasus Mountains are easier to invade from the north. They present an almost unbroken wall to an invader from the south. They can be pierced by means of a central military road up the Terek and down the Kura past the great peak of Kazbek, but the greatest corridor of advance is the Derbent Gate around the eastern end of the mountains along the shore of the Caspian Sea and into the rich area of Trans-Caucasia.

Analyzing the corridors of advance across the Caucasus Mountains, we find that the western part of the Caucasus is wild and inaccessible with one possible pass for a railroad north of Tuapse.

Further east, the great cone-shaped peak of the Kazbek, 16,541 feet, towers above the Georgian military road as it traverses the Dariel gorge. East of this are grassy passes which make it possible for horses to cross the chain in many places. This whole area is marked by a series of vertical climatic zones moving up from the warm valleys of Trans-Caucasia, through the leafy forest area and the pine forests to the alpine pastures with their long, cold winter and short, hot summer, finally to the region of glaciation and perpetual snow.

#### SOUTH OR TRANS-CAUCASIA

The Suram separates Trans-Caucasia into two lowlands by its connection of the Caucasus Mountains to the Armenian Highlands. The Suram watershed between the Caspian and Black Sea slopes markedly influences the climate. In the western third we find a Mediterranean region with winter rains, a dry summer, and a luxuriance of sun-tropical vegetation. In the eastern two-thirds is an area of scanty rainfall with a maximum precipitation in the spring. In fact, irrigation is essential in order to cultivate the bare steppes between the Kura and Alazan Rivers. The whole eastern region is exposed to the great winds from Central Asia. However, the coastal plain on the east is broad and with its dense vegetation and malarial swamps extends from Batum almost to the Suram range. To the southeast the coastal plain extends down toward Lenkoran, which resembles the sub-tropical climate of India and has bamboo groves and tigers.

In western Trans-Caucasia corn is easily raised on the alluvial soil brought by the spring floods. Cotton production has been most encouraging in this area also. Medicinal plants and tea can also be grown here. In the eastern part of the area cotton and rice are the chief crops, in addition to wheat. Widespread malaria is a problem in its effect upon the vitality of laborers. The area has much timber but is little developed because of transportation. The chief mineral is manganese, found in the district of Chiatura. Oil is of primary importance, centering at Baku in the east with pipelines northward to Grozny and westward to Batum. Coal of low quality is mined north of Tiflis and iron to the south. Great hydroelectric development is taking place, and industrial centers are growing up increasingly around Tiflis and Poti. Transportation is excellent from east to west across the valley but only one major line leads to the north by way of the Derbent Gate.

#### THE ARMENIAN HIGHLAND

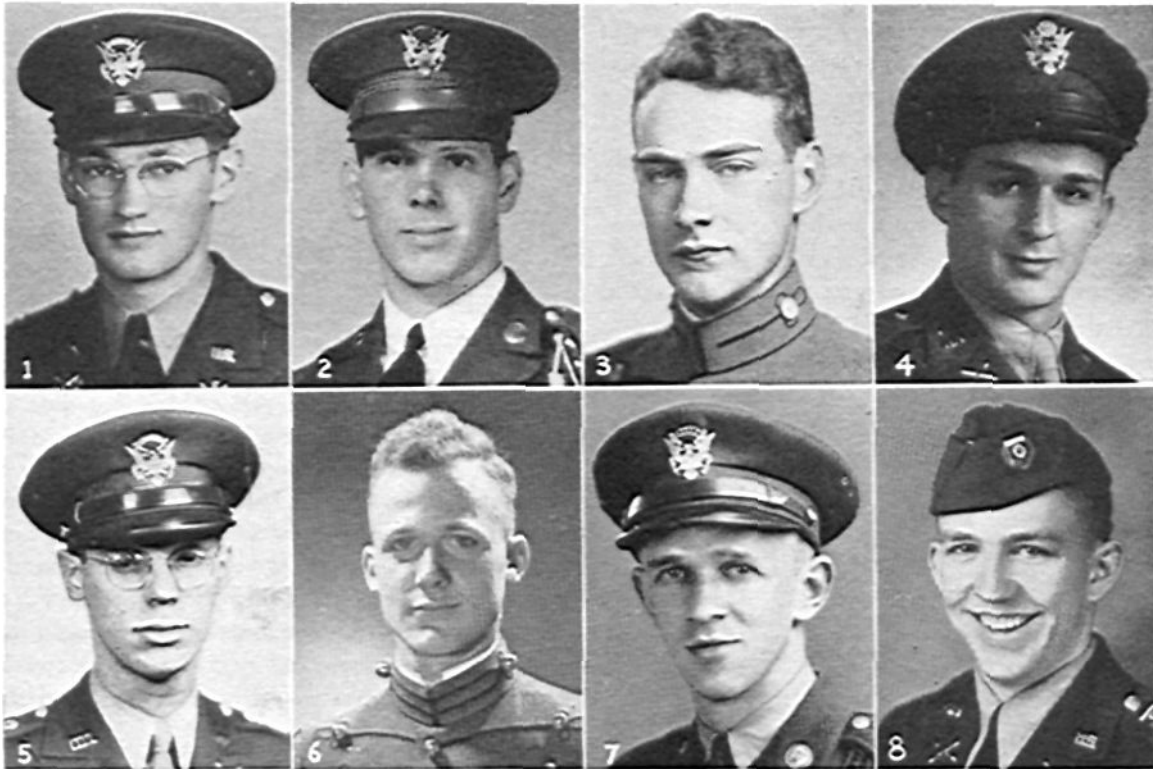
The Armenian Highland to the south is a sparsely settled, primitive area which, nevertheless, has great possibilities for development. Minerals in the area include coal, copper, and gold.

## COMMUNICATIONS

The transportation net has a northwest-southeast axis with the main railroad lines paralleling the great obstacle of the Caucasus Mountains on each side. South of the mountains, rail lines run from Baku by way of Tiflis to Batum, and from Baku over Kars to Erzerum. North of the mountains, the rail lines run from Baku through the Derbent Gate to Makhach Kala and west to Krasnodar, Novorossisk, and further north to Rostov or Stalingrad,

The obstacle of the Caucasus is only pierced in three places: by the railroad through the Derbent Gate on the east, the Georgian Military Road in the center, and by the Maikop-Tuapse railroad in the west, which may now extend along the coast to the main Batum line.

No railroad seems as yet to connect Astrakhan on the Volga Delta across the Kuma and Terek rivers to Makhach Kala. There are no rail connections to the Persian Gulf. Geography has forced transport lines into an east-west pattern.



## AWARDS OF ASSOCIATION MEDAL

1. *Ohio State University: Cadet First Lieutenant James W. Ferriman of Elyria. Honor student; member of Scabbard and Blade, Cadet Officers' Association, Scarlet Key; secretary, Freshman Arts Council; manager of Freshman, Sophomore, and Junior Football; social chairman of Stadium Club.*

2. *Louisiana State University: Cadet First Sergeant James M. Kidd. Student of Engineering; member Scabbard and Blade, Phi Eta Sigma, Kappa Mu Epsilon, Tau Beta Pi, A.S.M.E., Lambda Chi Alpha. Expert gunner; twice first sergeant of Honor Battery; captain of Demonstration Close-Order Drill Battery.*

3. *Virginia Military Institute: Cadet Murray Innes Forbes of Huntington, West Virginia. Student of Electrical Engineering; member of Track and Horse Show teams; "Whipper In," V.M.I. Hunt Club; participant in intramural football, track, swimming, basketball, volleyball, tennis, baseball.*

4. *University of Missouri: Cadet Sergeant Stanley L. Boxerman. Honor student.*

5. *University of Oklahoma: Cadet Second Lieutenant Gilman Granville Hoskins of San Francisco, California. Student of Architectural Engineering; vice president of Delta Chi.*

6. *Culver Military Academy: Cadet Senior Captain (Regimental Commander) Alfred R. Kitts. Captain of Culver Jumping Team; secretary of "Vedette," weekly paper; expert gunner, pistol.*

7. *Iowa State College: Cadet Master Sergeant Howard William Holbrook of Des Moines. Student of Chemical Engineering; member Scabbard and Blade, Cadet Officers' Association, Beta Theta Pi.*

8. *Saint Bonaventure College: Cadet Staff Sergeant Ray H. Smith of Shinglehouse, Pennsylvania. Member Varsity Pistol Team, R.O.T.C. Officers' Club, R.O.T.C. Band, Tau Chi Sigma; vice president of Math-Physics Club; participant in intramural basketball and football.*

*Cadet Sergeant Edward Murray of Pikesville, Maryland, earned the award at Princeton University, where he is a member of the Varsity Lacrosse Squad.*

# THROUGH THE MILL

## Fifth of Series

You remember the old classic, "An army marches on its stomach."

Perhaps that's an overstatement; nevertheless, as a morale factor, your battery mess may make or break you with your men. They expect to be well and substantially fed and they'll blame you (not the cooks) when they're not.

It may be that your knowledge of food comes wholly from cornering dainty morsels at elaborate "joints." If so, you'd better cast your talents about for enlightenment. You are expected to know what men want to eat, and you're responsible that they get it in quantity and well prepared.

As a junior officer, one of your very first duties will be that of "Mess Officer." As such you make the acquaintance of a Mess Sergeant who knows his job (maybe), of several cooks who are on their toes (some of them), and, if on garrison rations (which isn't likely), a form 469 which would baffle a C. P. A.

Your job may be that of arbitrator between a Mess Sergeant who wants to RUN the mess and a young Captain, full of ideas from his former sheltered existence, who wants everything A LA MODE (and several courses).

There came a time in my first year of service when I was duly appointed Mess Officer. As usual, a number of possibilities (which were immediately overruled) occurred to me. My BC was old at the job and the Mess Sergeant had about 25 years' service. Their experience carried me along. Aside from the Captain's asking me (in unguarded moments) how many cans of peas were on hand or what was the current price of bread per pound we made it fine, and the cooks got out enough food for the battery, regardless of my suggestions.

### ON THE ROAD

In the spring of '41 the battalion was on a 10-day march. Some of the distances we had for a day's march would allow us to arrive about 11:00 AM, on other days we would be on the road until about 1:00 PM. About 2:00 PM one day while the men were making camp the BC said to me, "What arrangements have you made for lunches for tomorrow?"

I was stumped because I had made no preparations whatever. When I told him that he went into the air, told me in no uncertain terms that dire things were going to befall me, that I was *inefficient*, that he would hold me

By Capt. John Hughes, FA

responsible for sandwiches and lunches in paper bags for each man in the outfit—to be ready to go when the battery left camp the next day. I explained that I had no schedule of the day's travel, that I had no means of knowing what days we would need lunches, and that I couldn't see that we would need lunches next day because we would hit the next camp by 1:00 PM, where a full meal would be served. He didn't agree and insisted, in fact ordered, that I prepare lunches. I knew (so did he) that ration trucks had already gone back to the Post for the next day's supplies and that there was insufficient food around the field kitchen to prepare over a hundred lunches. I went to the S-4, who agreed that I was in a mess and was good enough to ask the Colonel for permission to send a truck in to the Post for the necessary junk. The Colonel agreed and the truck was sent the 80-mile trip, returning about midnight to find my Mess Sergeant and the cooks waiting. They worked the remainder of the night getting the little bundles ready for each man's noon meal. The friendship of a good S-4 and the willingness of the mess outfit to work most of the night saved my *inefficient* hide that time.

The lunches we carried consisted of a jam sandwich and a slug of cheese between hunks of crisply dry bread. Next day the Captain was surly and hardboiled. Every man in the outfit knew about the enforced lunches, and as they were a happy-go-lucky gang it was the subject of considerable behind-the-back comment. It was obvious to the entire command that we would make camp shortly after noon and that the lunches were unnecessary, as the cooks would have a good meal ready when we reached camp.

### WITHOUT REBUTTAL

At 12:15 we halted and the lunches were consumed or disposed of while we were less than a half hour from bivouac. When we reached the bivouac area the men started making camp and I went to the kitchen, found that chow was waiting, then went to the Captain's tent where he was removing his boots. I saluted.

*"Greta Garbo, and the Captain doesn't want to be bothered."*



"Captain," I asked, "What's on the program?"

"Greta Garbo," he snapped back, "and the Captain doesn't want to be bothered."

"Do you wish to have the men fed before the horses are watered?"

"Tend the horses first."

"Yes, sir. Chow's ready. What time shall I have the cooks serve?"

"We'll eat sometime this afternoon."

I saluted and left. There was no more that I could do.

We did eat, too, but the kitchen crew kept chow hot from 12:45 until 5:10 before we got around to it.

Once we spent an afternoon surveying a position for night occupation. That night we moved in and prepared to fire at daybreak. The Captain told me in detail how and when he wanted breakfast served. On time, and with breakfast ready for serving, I reported to the Captain. However, the battery was firing at the time, so the Captain decided we'd feed out in relays, so that each man would get his chance.

Just as the decision was made, "Cease Firing, March Order," came down and a moment later orders for the march home which should put us into barracks about 10 AM. The Captain announced to the battery (some of the men had formed line and had messkits ready) "It's only five hours to Post. We'll eat there."

This was received in complete and somewhat stunned silence. We made the 4-hour march in to Post and stood at attention in the gunpark at 10 AM listening to our Captain proclaiming, "We will take care of the horses first, and as it is near noon we will just wait and eat a big meal then."

I don't know what you think, but I have a couple of ideas of my own.

Talk about a morale factor, the BC and the mess play a big part. Don't underestimate the effect your actions will have on your men. They look to you for a square deal and leadership. Give both to them in big doses. You must be a directive and leading, not a driving, power in your outfit.

"Regulations are made for recruits and 2nd Lieutenants." Remember that?

Recruits and 2nd Lieutenants are the greenest of the green and, if ignorance is bliss, the sublimest of the sublime. In the old days (summer, 1940) recruits were pushed about and run over. Second Louies were simply ignored as much as possible until a nasty detail turned up, then the shavetail appropriately and quickly got the assignment.

#### WHAT TO DO?

You aspiring embryo officers take note. Almost regardless of the unit to which you are assigned, you will be the *junior* officer. As the junior you may expect to be assigned to all the monotonous tasks. It just might be that you will get one of those rare birds who will take the most

desultory tasks for himself; but don't waste hope on the idea. It won't happen repeatedly.

I remember with disturbing clarity when Kayton, a stable officer, was ordered to make up a list of horses for the battery. He immediately and rightly went into consultation with his stable sergeant. They decided that, in



"It's only 5 hours to Post. . . . We'll eat there."

the absence of specific instructions as to how it was to be done, they would arrange the list alphabetically, by name.

The list of 158 was duly compiled after an enormous amount of work which involved Preston Brand numbers and weight and color classifications of the horses. Lt. Kayton looked the list over, decided it was a job well done, then reported to the BC.

"How you makin' out on the list?"

"Very well, sir. It's completed."

"Of course, you made the list according to brand numbers?"

"No, sir. We decided it would be easier to do it alphabetically."

"Who's *we*?" The Captain boiled up. "I told *you* to do the deciding."

"I consulted the sergeant, sir."

The Captain lectured loud and long on his opinion of young officers who would not take the initiative.

"I want you to assert yourself," he said. "Make your men know you can do your own thinking. The list will be according to brand number. Change them on that basis."

"But, sir, I see no *reason* for making a change."

"Listen, Lieutenant." The Captain's voice was hard. "There are *eight reasons* for you to make the change. The *first* one is *I told you to*. The other *seven* make no difference."

And that, rest assured, was that.

## SPECIFIC ORDERS

There came a time, however, when this lieutenant decided he had a perfect chance for revenge. The battery was out on a road march, the Lieutenant's platoon in front.

"When you reach the top of the hill, make a left turn and go across the range," the Captain's message came up.

"Message received," the Lieutenant sent back.



*What to do? What to do?*

When the hill top was reached there was found no sign of road or trail over which to climb a rather steep incline. Lieutenant Kayton was undecided. He reasoned something like this: "He told me to turn left at the top. This is the top, but there is no road. There is a road about 100 yards over the hill. I doubt if we can make this, but he says turn, so turn I will."

The first platoon swung off the road and up a long, steep bank. Green horses and greener men failed to make it and a mixup of men, horses, and materiel came scrambling back toward the road. No one was hurt, no particular damage done.

The Captain came up at the gallop.

"Lieutenant Kayton, this is a dumb thing for an officer to do. You knew those horses could not make that grade. I meant for you to turn left on the next road."

"Sir, my orders were to turn left at top of hill."

"Yes, those were the orders, but I expect you to use some common sense. Use your head. Don't let your initiative run away with you."

"Don't be a fool. Show your initiative, make your own decisions. Don't assume too much authority. Assert yourself."

Just where is that intangible line that separates good from bad, success from failure? How can you know how

much authority to assume, just how far initiative reaches before it becomes foolhardiness?

What to do? What to do?

## CARRYING OUT ORDERS

Several times I have known of officers who, through inability, carelessness, or lack of forcefulness, failed to carry out the orders of their superiors. I have never known a case of willful disobedience or insubordination among officers. Most of the cases of failure to carry out orders have been from failure to understand the meaning of orders when given and refusal to ask simple questions in order to have everything definitely settled. Sometimes, however, it is a fact that the individual officer lacks the necessary push.

Once I heard a captain make this defense of his failure to take proper action. He had been detailed by his battalion commander to investigate an automobile accident involving personnel of the battalion. The colonel questioned him as to why he had failed to secure certain information that was necessary to the case.

"But, sir," the captain defended himself, "you gave me no authority to take such action."

"Captain, remember this. When I order you to do a job, that order carries with it all the authority that I can give. When I tell you to do something, that is your authority to take such action as will allow you to carry out my orders. Do you understand that?"

"Yes, sir."

That leads me to believe that when an officer gives me an order to do something, he wants it done and he feels that I can do the job, else he would have given it to another in whom he had more confidence. That being the case, I would raise all merry hell rather than fail in an assignment.

## PROMPTNESS

For some reason all my CO's have been very particular about promptness. Promptness in the Army means 15 minutes to a half hour early on every occasion—except starting on leave. You might as well not go at all if you're even a minute late to Officer's Call.

Officer's Call, that's where I finally slipped.

Every day we read a bulletin board which kept us posted. And to be sure everyone read it daily there was a place to initial the thing by your name. When an important meeting of officers was to be held, it was advertised a few days in advance. One of those caught me.

"Hughes," my BC told me, "You go over to Post Headquarters this morning and look up the Post Order which says we can't purchase fresh vegetables from the Commissary. I want to see that thing."

Of course I went, and was soon buried in volumes of orders, counter-orders, corrections, deletions, additions, rescissions, and lots of irrelevant material. Come 11:00 AM, Officer's Call time, and I was in August, 1934,



reading that much-sought order. As the clock struck 11 my blood pressure suddenly rose 20 points. I had just remembered that stern admonition, "Hereafter all officers of this command will attend all Officer's Calls unless prevented by emergency duty." I couldn't elevate my work to emergency status, so I mentally kissed my next efficiency report goodbye, found my collar suddenly too tight, and trudged off toward home, despondent and bitter.



*"Listen, Lieutenant, there are eight reasons . . ."*

At mess that noon, one of the battery officers asked, "And where were you this morning, Hughes?"

"Oh," I answered glibly, "I took the morning off."

"Yeah," he came back. "Well, the Old Man wants you to take the afternoon off and call him right away at the office."

I called the Captain, at once.

"Hughes," he said, "you will report to the colonel at 1:00 PM. I'll see you in my office at 12:30."

I answered a weak "Yes, sir" and could feel the old axe falling irresistibly on my neck.

At 12:30 I reported to the Captain.

"Hughes," he said kindly, "you're in a spot of trouble. The colonel is mad as hell and has ordered you to report to his office at 1:00 PM. When you report and he asks you why you did not attend Officer's Call, your best reply is *I have no excuse, Sir*. The less you say, the better you'll come out of it."

I left the office feeling like a criminal, and like a convict on his last mile I started toward battalion headquarters. To my anxious query, the adjutant replied, "Yes, go right in, the colonel is expecting you."

#### THE COLONEL'S LECTURE

I knocked at the colonel's door and entered on his invitation.

"Sir, Lieutenant Hughes reports at your orders, sir."

"Sit down. I want to talk with you."

Perspiration popped out on my forehead as the colonel sorted papers. I grasped my chair tightly and held on, waiting.

"Oh, by the way," he looked up, grinning strangely, "I suppose you forgot the Officer's Call this morning?"

"Yes, sir. I did, sir."

I could feel it coming. I knew he was going to bear down on me, heavy.

"You want to watch that sort of thing, Hughes. It's highly important. However, *that's not what I wanted to see you about*," and he smiled knowingly.

So passed one of my tense moments in the service. I haven't been late to "Call" since that distant date. If there's an Officer's Call and I'm around, you'll find me on the steps when you arrive.

#### AH! A PROMOTION

When I first entered the service I had no notion of being in long enough to earn a promotion, but at the end of a year the idea struck me that there was just a slight chance that I might get over being a shavetail. Looked for a while that I might get silver bars and silver hair about the same time. Just the same, my interest grew and the notion progressed until, by the time the old promotion came along, I was eagerly anticipating my first star.

About a week after I had settled down enough to get back to work, a letter from the division commander's office reached my desk. I opened it with trembling hands and with considerable surprise read a neatly-prepared, concise, congratulatory note signed by Major General \_\_\_\_\_. The division commander is really up on his toes, all the young officers decided. It was plenty nice of him to take time to write that. I thoroughly agreed and was very, very proud that a Major General knew I was in the Army.

Next day another envelope from the division commander was on my desk. Puzzled, I opened the letter and read a neatly-prepared concise, congratulatory note signed by Major General \_\_\_\_\_.

It was exactly like the first.

For a week I searched my desk daily looking for another, but only two arrived.

---

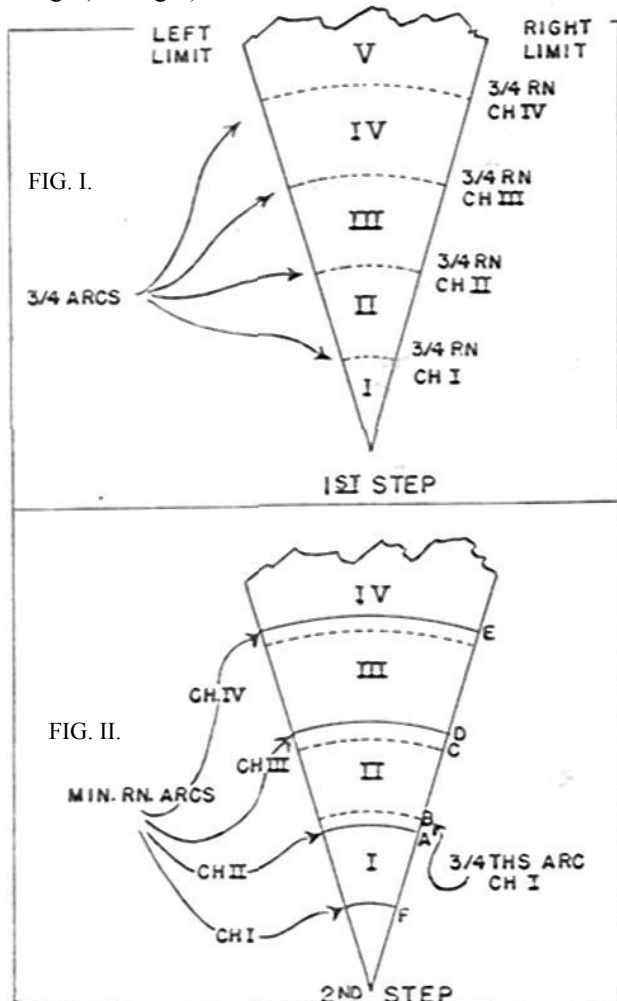
**A compressed air attachment to serve as propellant for the "Bishop" FA trainer (M2, M2A1, and M3), has just been approved for manufacture. This device will be issued for training purposes on the basis of one trainer battery per FA battalion.**

# A DEADSPACE CHART FOR YOUR HOWITZER

By Capt. Robert C. Gildart, FA

One of the most difficult problems encountered after receiving our new howitzers was the construction of a deadspace chart incorporating data pertaining to firing above 45°— a task which had to be accomplished in our defensive sector lying in and around many large hills and mountains. The only manual on file stated that a deadspace chart must be constructed for each charge. That meant 7 charts, slowing down our fire to about 1/7th of what it should be. Why not combine all seven charts into one and make it a permanent overlay to the firing chart?

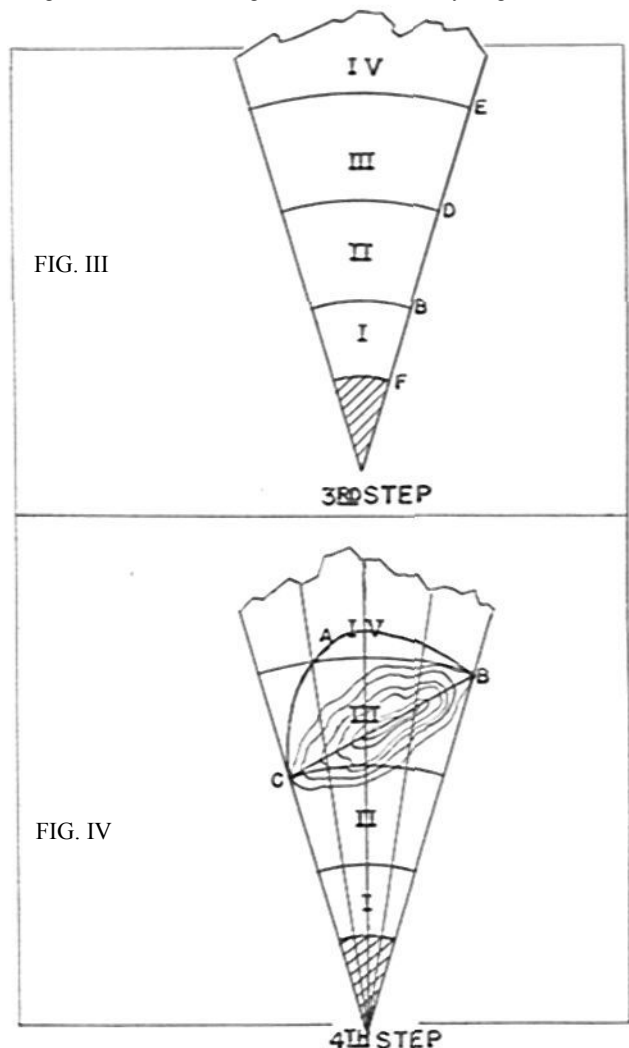
The first step is to draw rays from the gun position corresponding to the right and left limits of fire. Between these rays, lay off "three-fourths" arcs for each charge, the radius of each arc equal to  $\frac{3}{4}$  the maximum range of the charge (see Fig. I).



The next step is to determine the minimum elevation, and from this construct "minimum range arcs." Assume a minimum elevation of 300 ft, the mask being only a few hundred yards from the gun position. The radius of the

minimum range arcs will then be the range for each charge from the firing table, corresponding to an elevation of 300 ft. For charge II assume that this arc "A" (see Fig. II) falls short of the three-fourths arc for charge I, "B." We are then able to use charge II between "A" and "B" but decide to adhere to the principle of using the lowest charge where possible\* and use charge I between "A" and "B," thus making the arc through "B" the "limiting arc" for charge I. Conversely, at points "C" and "D" it is necessary to use the arc through "D" as the limiting arc for charge II since III cannot be employed below "D." From this it can be seen that the final boundary arcs between charges I and II will be the arc through "B," and that for charges II and III will be the arc through "D." In similar fashion, boundary arcs are determined between the other charges

\*Note: Charge I causes approximately  $\frac{1}{2}$  as much erosion and wear on the tube as charge II. Similarly, charge II,  $\frac{1}{2}$  as much as charge III, and charge I,  $\frac{8}{1000}$  that of charge VII. See the front of your gun books.



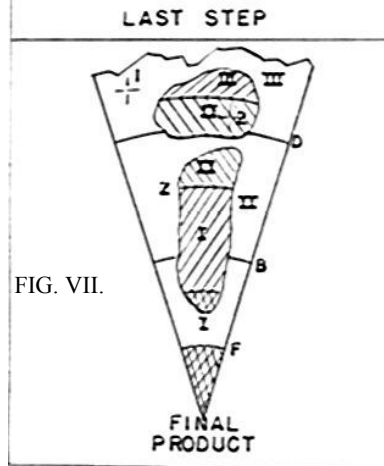
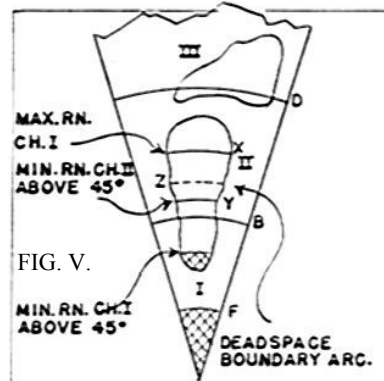
so that the chart progresses to the form shown in Fig. III.

The next step is one common to all deadspace charts—draw rays outward from the gun position, their angular interval depending on the terrain, and compute deadspace in the normal manner. *The charge to be used in the calculations is indicated by the area in which the point of impact is located.* In Fig. IV, for example, left of point of impact "A" charge III was used for computing deadspace, while right of "A" charge IV was used. Area enclosed by ABC is deadspace for elevations below 45°.

The final operation for completing the chart is to arrange the area ABC in such a manner that by merely glancing at it we can determine what charge should be used in firing above 45°, so fire can be quickly placed in our below-45°-deadspace-area. This is done by adding three more arcs for each charge to the chart, within the deadspace areas only. The radius of one of these arcs should correspond to the maximum range of the charge under consideration and of the second to the minimum range, above 40°, of the next higher charge. These two are constructed only to obtain the third, which is halfway between them. This latter arc might be termed the "deadspace boundary arc" since it determines the boundary between charges within the deadspace area. The deadspace for different charges is now single-hatched, double-hatching being employed only where a target cannot be covered by fire from either below or above 45°. In most cases double-hatching will occur in below-45°-deadspace which exists short of the minimum-range-above-45° of charge I, namely short of 2,800 yards. (For a diagrammatic explanation of this last step see Fig. V.)

In reviewing the steps necessary to construct the chart described above, many might murmur to themselves, "Too much trouble." For those who feel so disturbed, it might be added that all operations listed above are greatly simplified if the instrument section is equipped with a card containing the constants used to construct the chart regardless of the battery position. These constants are the range corresponding to  $\frac{3}{4}$  the maximum range of the charge, the minimum range for charge I above 45°, and the ranges corresponding to the deadspace boundary arcs between charges. With such a card, any or all of the arcs needed in Figs. I and V may be constructed immediately. (For illustration of card, see Fig. VI.)

A glance at Fig. VII, showing the final product, will illustrate the advantage of the completed chart. Target number 1 is plotted and immediately it can be seen that charge III must be used below 45°, while when target number 2 is plotted it is found that charge II must be used above 45°.



*The maximum range of a charge is always greater than the minimum range above 45° of the next higher charge. Therefore between X and Y (and similarly for any other charges) either Ch. I or Ch. II may be used above 45°. Hence using arc through Z gives a boundary arc on either side of which a safety factor for either charge exists.*

*Single hatching indicates above 45°. Double indicates deadspace for firing both above and below 45°.*

DEADSPACE CHART CONSTANTS (Shell HE)

	RANGES			
	Minimum Range. Ch I	$\frac{3}{4}$ Maximum Range	Deadspace* Boundary Arcs	Maximum Charge VII
Charge I	2800	2850	3560	
Charge II		3350	4190	
Charge III		3950	5040	
Charge IV		4820	6265	
Charge V		6220	7900	
Charge VI		7620	9570	
Charge VII				12,200

\*Example: Deadspace boundary are between Charge II and III = 4190; Deadspace boundary are between Ch VI and VII = 9570.

Fig. VI

If you've been wondering when your membership expires, look at the envelope in which your JOURNAL arrives. In the lower right corner of the address, there will be a 3-letter abbreviation of a month, the month which concludes your paid period. It just may be that your envelope has no month, for our changes won't be entirely complete until December. In any case, though, you will get (we will mail you) an expiration notice shortly prior to the expiration of your paid membership.

# PREVIEW IN THE CHACO

By Capt. Edward A. Raymond, FA

The world at large has been startled by Japanese jungle successes. In Indo-China, down the tortuous peninsula toward Singapore, in Burma, and elsewhere, lightly-clad and almost unsupported jungle fighters have confounded more conventional opponents. These developments were not as startling to American Army officers as they were to the general public. We have long believed in the need for special troops in special operations, and in Jungle Warfare (FM 31-20, 1942) we have known the nature of that particular type of operation. We have also had, within our western world, a full-scale experiment in jungle fighting—the Chaco War.

It was a wonder war. Small numbers of Paraguayan jungle troops drove large Bolivian armies of European type from one end of the Chaco to the other. Bolivia never won a battle from the time the Paraguayans mobilized. It is important in these times to remember that war.

Bolivia felt it necessary to guarantee by force of arms her access to the sea. She was—and is—the only landlocked nation in the Western Hemisphere. The Gran Chaco, to which she had old claims, is the western half of Paraguay. It extends from an ill-defined Bolivian border to a great north-south shipping lane, the River Paraguay. Only near the Bolivian border is there open country, with high jungle grass; characteristically the region is heavily forested, with dense undergrowth. The ground is flat, with few rises above fifty feet, and under four or five feet of topsoil is impermeable clay. For all but the months of June, July, and August (the dry season in the Chaco) truck movement over trails is impossible. There is no rock for road ballast and use of corduroy is too slow in battle. Thus during the long rainy season transport was by ox cart and pack horse. Evacuation of sick and wounded was not attempted.

Bolivia mobilized early in 1932. Her army of about 200,000 men was trained and led by a German officer, General Hans Kundt. Many of its choker-collared woolen uniforms were obtained second-hand from condemned American stores after the first World War, and were used as bought, buttons and all. This is still misunderstood in Paraguay. The infantry used the Mauser rifle and carried grenades. It was supported by flame throwers, tanks, and planes. The artillery had 75-mm. guns and a few 105's, generally portee.

She moved east without declaring war. There were but a few Paraguayan outposts, some hundreds of miles west of the river and connected with it only by trails. In June word came out that an outpost, Pitiantute, with its sergeant and five men, had fallen to an invading army. There was great excitement. There were conversations in Washington.

There was mobilization. Meanwhile, half a dozen more outposts fell.

From a spring level of 3,000 officers and men, the Paraguayan army swelled to 50,000. The uniform was simple in the extreme: slouch hat, forest green shirt, trousers, and often rope-soled canvas shoes. Equipment also was simple, consisting of Mauser rifle like the Bolivians', bayonet, machete, and water bottle. For food semi-wild cattle were herded behind the lines, hard-tack was carried sometimes on pack horses, and yerba maté leaves, to brew for hot drink, were packed in cow horns. Greenhide strips stretched between saplings made bunks in hospitals and semi-permanent camps. Paraguay was a smaller, poorer country than Bolivia, and time for obtaining elaborate impedimenta from abroad was as short as credit. She did not place such orders. "Our arsenals," said the Paraguayan Commander-in-Chief, "are in Bolivia." In fact, most of the fighting for three years was done with captured Bolivian arms, and almost all of it was done with Bolivian ammunition.

Paraguayan leadership was young and enthusiastic. The colonel commanding the army had specialized on the Chaco and had spent much of his life there. He had also studied in the military schools of France. The post-World War French Army had the highest prestige, and it is greatly to the credit of José Estigarribia that French emphasis on elaborate staff work and formulas did not turn his head. Other officers were extremely loyal. The few foreigners among them, Argentines and White Russians, fought as volunteers without pay. There was little "side"—the commander disdained promotion from the rank of colonel until a series of victories had been won. Staff officers at GHQ lived in mud huts and shared the primitive rations of their men.

For nearly a year, to the autumn of 1933, the Paraguayan strategy was purely defensive. Estigarribia weighed the Bolivian supply problem (nearly 1,000 miles by a single motor road across the Chaco), Bolivians' susceptibility to the tropical climate (80% of all Bolivians are born and live in rarified air above 10,000 feet), and their use of mass frontal attacks against strongly entrenched positions. He established a line of "fortines" about 40 miles west of the river and extending for nearly 200 miles; these varied from mud huts with a rifle pit in front to extensive entrenchments. No wire or concrete was available. Pickets and patrols were used to fill the many gaps in this line. Northern forts (Toledo to Nanawa) were strongly fortified to protect the Casado Railway. The southern forts of Nanawa and Gondra covered the one good road to the river within 100 miles. Other links (Corrales, Boquerón, Arce, Falcon) were

linked to the river by telegraph lines and such roads as could be improvised. A base was established at Puerto Casado, 350 miles up the Paraguay from Asunción. A hundred miles of railway ran up from there; at its terminus a railhead was set up. Then 50 miles of passable road ran in a southwesterly direction to GHQ at Isla Poy. Here about a lake were shops, small depots and a hospital. Meanwhile "active defense" delayed the Bolivian advance. It was so active that by July, 1932, Pitiantute, the first Paraguayan fort to fall, had been retaken.

In the summer of 1932 the Bolivians had few organized positions, counting on the impact of their numbers and equipment to crush Paraguayan resistance. Their principal supply bases were at Ballivian and Villa Montes and their headquarters were at Muñoz, some 80 miles west of the Paraguayan fort of Nanawa.

Bolivian attacks during the first year of the war were uniformly unsuccessful. Not a single even minor success was scored, and no link of the Paraguayan chain was cracked. The Bolivian artillery found an assured supply of ammunition impossible, and its fires were not particularly effective against well-camouflaged, thin, and ramified trenches and well-concealed strong points. Matted jungle hides an elastic defense well. Bolivian bombers had similar troubles. A complete green roof over a battlefield injects too great a factor of guesswork. The 50- and 100-kilo bombs employed against personnel did not behave properly in deep Chaco mud. Tanks were hopeless. The worst of the 1933 rainy season found the Bolivians stalled in front of the Paraguayan defensive lines with their units badly cut to pieces, their mechanized and much of their motorized equipment and artillery unusable. Bronchopneumonia further demoralized the Bolivians. (It was also to account for nearly 50% of Paraguayan casualties throughout the war.)

General Estigarribia still had a numerical inferiority of one to two, but decided that while defense does not win a war, it had prepared a final victory. He determined that the time for offense had arrived. In the heavy November and December rains he pinched out salients and harassed the length of the lines. Then by what he termed "burrowing" tactics of infiltrating Indian-fashion through the densely-tangled growth, he got considerable forces through the Bolivian lines, astride their single line of communications, cutting it completely. Twenty thousand Bolivians surrendered and a four-week truce ensued. Then, abandoning his *fortines* to the rear and throwing all his forces forward, swift, light movements were made far to the west. Bolivian advance bases (Murguia, Samaklay) and

headquarters (Muñoz) fell. Kundt was replaced by a native Bolivian general, Piñaranda. Now the Bolivians turned to the defensive, making strongholds of their former bases (the most important, it will be recalled, being Ballivian and Villa Montes, near the border).

It would seem natural to expect the advantages of the defensive to swing to the Bolivians. Now they were near their own relatively excellent roads. It was now the Paraguayan army that was fighting across the Chaco, many hundreds of miles from main bases. But the Paraguayan manner of fighting with a minimum reliance upon impedimenta was now seen at fullest advantage. In November, 1934, Ballivian, 10,000 men and a vast store of supplies, arms, munitions fell to Paraguay. Peace negotiations were to drag on until 1938. There were sporadic outbursts of skirmishing through the years, but in a military way the Chaco War had been won. Paraguay had lost 25,000 dead and an unknown number of wounded—but she had defeated an army four times the size of her own. The number of Bolivians killed was greater than the numerical strength of the Paraguayan army and an additional 35,000 Bolivians were wounded. Most of the stores and arms used by Paraguay in the war were captured from Bolivia.

It must not be inferred from all this that the Bolivians are cowardly or weak or lazy. It is widely maintained that the Chaco Peace Settlement would have been different had Paraguay continued driving the Bolivians up the slopes of the Andes, and had they fought upstairs in the atmosphere to which the Bolivians were accustomed and their opponents were not. They were hopelessly handicapped—as were the British in Malaya and Burma—by lack of proper physical conditioning for jungle fighting and by excessive reliance upon conventional European modes of warfare and upon the goods, weapons, and transport which those modes of warfare require. The success of the Paraguayans gave a most striking example of what can be done by a force which knows the jungle from many years of experience, can move in it, live in it, fight in it—not only in the dry season but in torrential rains as well.

The major lessons are of such importance as to outshine the many lesser ones—simplicity in tactics, decentralization, emergency employment of field artillery point blank within the front lines. The major lessons, bought by so many lives both Bolivian and Paraguayan, can be useful to civilization. Paraguayan victory in the Chaco may well be a preview of American successes on the jungle fronts of a far greater war.

---

Don't wait for and depend on the Post Office Department to send us your change of address. Day after day we make changes of address on Post Office notices only to be notified by you in a few days that you're in a different unit, station, and state, from the address sent us by your postmaster.



*Though apparently delicate, the vinta is highly seaworthy. For centuries it has been used, little changed, among the Pacific islands. Its sail is generally highly colored in bold, splashing patterns.*

# BELOW LUZON

By Major Edward Kraus, FA

For three and one-half centuries the Moros of the Sulu Archipelago of the Philippine Islands have never been conquered, except by the Americans. There have been numerous occasions when invaders, such as the Spaniards, seized areas close to the sea; but never have they conquered and held areas in the interior of even the smallest islands. As it was, the Spaniards had to build forts on the island shores in order to hold the land they did wrest from the Moros. Even so, many of these forts fell. To hold the remaining forts the Spaniards, at great cost of life, had to make frequent sorties to subdue the Moros near the forts. To do this, however, it was necessary to keep their sea communications between the occupied islands open. By means of their superior fleet the Spaniards were able to keep in touch with their garrisons, but not without frequent heavy sea combat, for the Moro was a splendid fighter at sea as well as on land.

Now that the Japanese have "taken" (as they claim) some of the Moro islands such as Mindanao, it will be interesting to see just how far the Japs extend their

conquests in actuality. Although the Jap has shown himself particularly adept in mountain and jungle fighting and should give the Moro a hard battle, the writer believes the Moro to be the superior fighter of the two. It is in order to present an intimate picture of this Moro fighter in his own environment that the following account is given of a trip to the out-of-the-way islands of the Sulu Sea. The writer's opinions are based on personal acquaintance with certain Moros, on contacts with white men who have lived among the Moros for over forty years, as well as on facts in the following account.

## "STOCKING UP" IN ZAMBOANGA

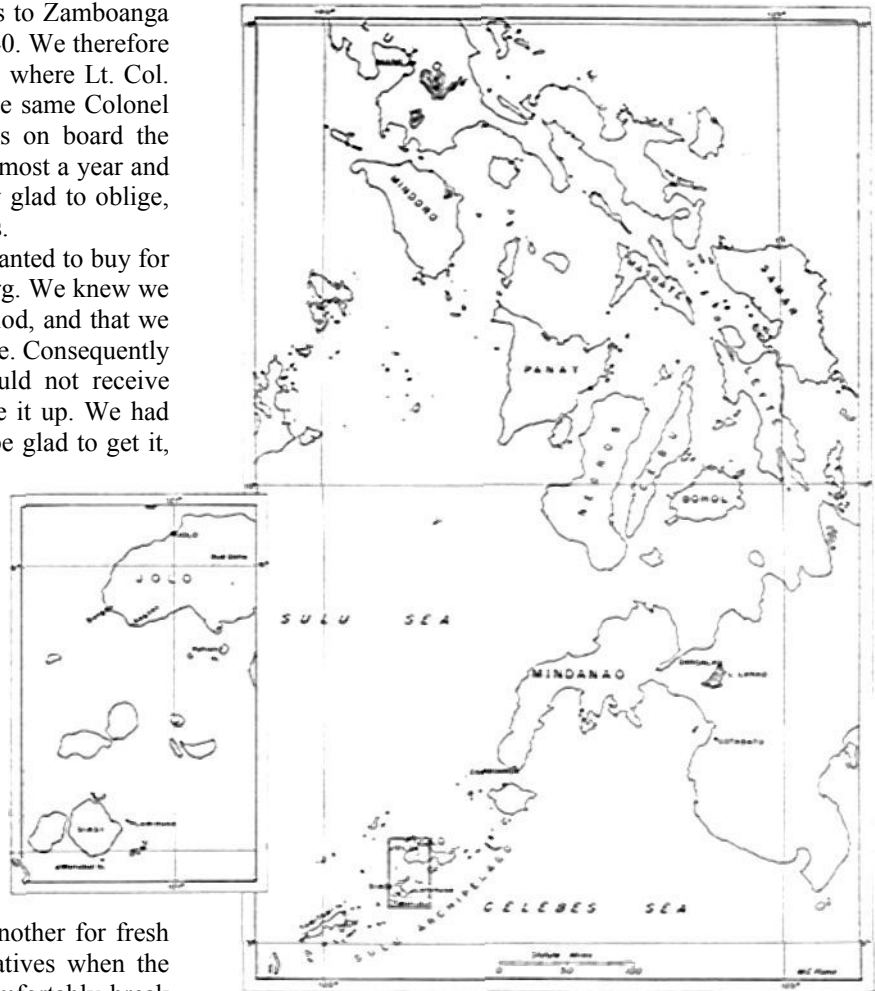
Charlie, my roommate at Fort Stotsenburg, and I bought passage in Manila for an inter-island steamer. Since our plan called for us to stock up with provisions at Zamboanga, the southernmost U. S. Army post in the Philippines, we had no choice but to wait until we arrived there once we left Manila, before continuing our plans. It so happened that the itinerary of our inter-island

steamer, the 1,000-ton *El Cano*, brought us to Zamboanga on a holiday morning, Decoration Day, 1940. We therefore lost no time in hurrying to Pettit Barracks, where Lt. Col. E. V. Smith was in command. This was the same Colonel Smith who had been a passenger with us on board the *Grant* when she sailed to the Philippines almost a year and a half before this. Colonel Smith was very glad to oblige, and arranged to open the commissary for us.

Charlie and I had figured out what we wanted to buy for this trip long before we left Fort Stotsenburg. We knew we would want provisions for a two-week period, and that we had to buy things that would last without ice. Consequently our favorite all-round beverage, beer, could not receive consideration, reluctant as we were to give it up. We had not yet learned to drink warm beer—and be glad to get it, too! As it was impossible to take fresh meat with us, we arranged to have our daily proteins from canned beans, corned beef, canned fish, and a twelve-pound tin of smoked bacon. Of course we bought the usual canned vegetables such as string beans, corn, peas, sauer kraut; and in lieu of bread we got boxes of crackers. To these we added canned fruits and fruit juices, a sack of potatoes, and a sack of rice—the latter as much for natives who were to sail our vintas as for us. We now felt that we had not only enough for ourselves for direct consumption, but a little margin to use as barter if necessary. Allowing one day for fresh chicken and another for fresh fish, which we hoped to buy from the natives when the time came, we felt that we could quite comfortably break loose from civilization for two weeks.

After buying our food we returned to Colonel Smith's office. While there I asked him where, along our proposed route, Constabulary stations were which had radio stations. As I questioned him I pointed out on a large map hanging in his office the route between the southernmost islands, including Dutch Borneo, which we hoped to visit. "If you can show me those stations, Colonel," I said, "I can tell you when we expect to get there, then if you don't hear from us within two days of that time, it might be wise to notify the Constabulary and have them search for us. We don't expect trouble, but we don't want to take a chance on being unnecessarily delayed and thus overstay our leave." But to my question as to where these Constabulary garrisons were, he had to reply in the negative but that he would be only too glad to introduce us to the constabulary commander of the entire Sulu district, whose headquarters was in Zamboanga.

So it came about that as I recounted our proposed trip in a vinta that Colonel Quimbo, the constabulary commander, interrupted with, "Why do you want to sail the Sulu Sea in a vinta? My sub-district commander in Jolo, Major Angeles, has a thirty-five foot launch available which he



might be able to release to you for a day or two. Where do you want to go? Perhaps you can arrange to go there in the launch."

My idea was not to make a pleasure trip out of this. Part of the pleasure was looking forward to sailing the Sulu Sea in a Moro vinta with a crew of three or four Moros. Any tourist could board the *El Cano* or any other inter-island steamer and go as far south as Jolo, then return to Manila, all the time having been spent in the utmost comfort. But we wanted to go beyond Jolo in a vinta, and return only in time to catch the *El Cano* on her next round trip back to Manila. I therefore told Colonel Quimbo that we had planned to sail in a vinta.

"However, Colonel, we would be able to get around more if we used the constabulary launch to take us to the southernmost outpost in the Philippines, where we could then release the launch and have more time to sail in a vinta. It would also give us more time to return to Jolo again, so that we may be sure to catch our boat and thereby get back to Manila in time."

"Gentlemen, I will be frank with you. It is too dangerous to trust yourselves at sea with a strange Moro

crew. Many travelers have disappeared down there without leaving a trace. Now if you take the launch you can get around with more speed and comfort and at the same time there will be five constabulary crew members who know their way around. You have only to pay the cost of the fuel consumed. Here, I will give you a letter to Major Angeles who, I am sure, will be able to spare the launch for two or three days. Killings occur among the Moros all the time; in fact, just three or four days ago two of our constabulary soldiers were killed by a Moro who went juramentado at Taglibi, one of our outposts on this island."

"Is that so? What seemed to be the cause of that?"

"I don't know," answered Colonel Quimbo. "It just happens when it occurs, for no reason at all. They just go juramentado."

Obviously Colonel Quimbo was much concerned for the safety of two American Army officers who wished to roam through the district for which he was responsible. Moreover, he was temporarily substituting for a Colonel Stevens, one of the old time American constabulary officers who was on leave of absence. If anything serious happened while Colonel Quimbo had command it would hurt his chances of promotion, for to date he had no black mark against his fine record.

#### SULU

Upon landing in Jolo we put on for the first time our pistol belts and pistols, for we were now in the heart of the Sulu Moros' country. We had been advised both for and against carrying pistols. Some said we needed them for protection, others said if we carried them the Moros would kill us for the weapons, because they had no way of legally obtaining them. When we saw a Mr. Thompson, an American who had come to the Philippines with the volunteers in 1898 and who had married a Moro woman and lived on Jolo for over twenty years—when we saw him fasten a belt around his waist and pack his old .45 Army Colt before he stepped on the dock at Jolo, we immediately dug into the bottom of our clothing rolls for our own pistols, belts, and holsters. Charlie and I were therefore armed when we began our walk through the crowds looking for Major Angeles' Constabulary Headquarters.

Everywhere we were the object of the closest attention. Every Moro looked at us with that perpetual furrow between his eyes, which gives the appearance of a fierce frown. That look was challenging, in much the same way as the menacing glares which two small boys will give each other as they "feel each other out" just before the scrap they know is coming. I noted later as I saw Moros of many more islands still farther south that that frown was characteristic of all males amongst them, from the smallest boys to the feeblest old men. It was there not only when they were displeased, but even when they felt merely a passing curiosity or casual interest. That frown had

become a hereditary characteristic of a people who for centuries exercised their fighting instincts, not intermittently as is the case with other nations, but constantly. Most of the time they fought outsiders, but they fought each other when there was no one else to fight. I therefore had no hesitation to reach for my holster when, after we walked beyond the town limits, we had to pass very close to groups of Moros.

This action was not restive or fainthearted, but on the contrary, prudent; although I had not been among the Moros before, I did know something about them. The Moro is one of the best natural fighters the world has ever seen. But along with that characteristic he prefers to do his fighting the easiest way; if he must kill, he will kill the easiest way. If he wants your head he is perfectly willing to meet you and fight you for it (if he has to), but it is much easier for him to lie concealed along some jungle path and get your head with one sweep of his kris as you come near. It is because the Moro is such a good fighter, yet is apt to fight treacherously at any time, that he is the most dangerous type of fighter to meet.

From this description it is seen why simply carrying a pistol gave no assurance of protection, because what good was the pistol if one did not have time to draw it? This was in my mind as we walked along the streets of Jolo, so Charlie and I were soon carrying small canes made of heavy tropical wood. Now we had a chance to stun an attacker momentarily at close quarters, thereby giving us a chance to draw our guns.

We finally found the Constabulary Headquarters and faced Major Angeles in his office. He was a typical Filipino of the northern islands, 5 feet 8 inches tall, medium build, and seemed thirty-five although he was close to fifty. He was good looking, unassuming, and did not look like the veteran of five campaigns against the Moros. He was the one and only Filipino that had the unqualified respect of all the Moros. They knew him as a man who was fair and square with all, merciless with offenders, and absolutely fearless in enforcing the law amongst them. We introduced ourselves and explained that Colonel Quimbo desired that we inquire if the launch could be made available to us at any time.

"Yes, it is available. How long do you want it?"

"We would like to have it to go down to your southernmost outpost station at Bungao," I told him. "We will then release the launch and send it back, while we ourselves will have more time to sail the southern seas before we start back for Jolo in a vinta."

"There is no need to do that. Why don't you keep the launch until you are ready to come back? We don't need it, for we have just finished our monthly rounds to the various outposts and won't need it for another month."

I had no objection to this, so I thanked the major. Anytime we were ready to sail in a vinta we could do so,



leaving the launch at anchor in the meantime. Then when we were ready to return to Jolo after fifteen days to catch the *El Cano* on her next trip to Manila, we had a better chance of making it on time in case of rough weather or poor winds at sea.

#### BUD DAHO

While here it occurred to me to ask Major Angeles for a guide to Bud Daho, a high volcanic crater about seven miles outside the town of Jolo. To orient the reader, Jolo was the name of both an island and of a town on the island. The island of Jolo (sometimes also called Sulu because it is the capital of the Sulu Archipelago) was about eight miles wide and fifteen miles long. On it were two huge mountains, both of them extinct volcanos, one of them being Bud Daho, the other Bagsac. Both of them were the scenes of the first two decisive defeats the Moros had experienced in their own strongholds for centuries. Both these mountains, being old volcanic craters, were shaped on top like the rim of a cup, the rim rising like a wall for hundreds of feet. The top of the rim or wall was just wide enough to permit a narrow footing through the trees and heavy jungle underbrush. Looking inside from the rim one could see the crater some fifty or a hundred feet below looking like any other valley, its floor covered with large trees and tropical undergrowth just like the outside of the mountain. Since both Bud Daho and Bagsac had springs inside their craters, these mountains made excellent forts—and the Moros used them as such. I was naturally very curious to climb Bud Daho so as to see for myself what our American forbears had to do when they took these forts. At the same time, first-hand knowledge of this type of terrain might come in handy some time against the Japs. I knew that although it should not take more than a few hours to climb the mountain, it could very easily take days for anyone not guided by someone who knew the way to the top. It was for that reason that I asked Major Angeles for one man who knew the way.

The Major told me he did have a man who had been on Bud Daho before, and that he would send for him. In a minute or two a sergeant reported, an old-timer of over twenty-seven years' service with the Constabulary and a veteran of two or three campaigns against the Moros. As he stood there receiving his instructions he appeared like one who knew what he was about. Having issued his instructions, Major Angeles dismissed the sergeant and informed us that our guide would get his equipment and meet us outside.

While we were waiting for the sergeant to get ready, Major Angeles showed us some of the souvenirs he kept in his office: all types of spears, some bows and arrows, knives, bolos, crises of all kinds, and even some rifles. Although an old law originated by our army of occupation after 1900 forbade Moros to possess firearms, they still had them. But the crises were most numerous, they being the special weapon of the Moro. The major pointed out one with a bullet hole in the handle which one of his men put there during a fight with the outlaw. Here was another kris with a fresh red stain on the wrist cloth which was attached to the handle.

"This one," said the major, "we got about three or four days ago at Taglibi, one of our outposts not far from here.



*Bud Daho*

It happened while the commander of the outpost was away with a squad to bring in an outlaw, that this man, a native of the barrio in which the garrison is stationed, nonchalantly approached the sentry who was walking post at the entrance to the stockade. Either the sentry did not see him or if he did he was not suspicious, since he had undoubtedly seen this man before on many occasions. Without warning, when the Moro got close enough he suddenly swished off the soldier's head with one blow and was through the gate like a flash, making for the next sentry who was inside the enclosure. Although this sentry had some warning, he had to shoot fast. It was his bullet that put the hole in this handle. After that shot it was between the bayonet and the kris, an engagement which the kris will always win if the Moro can reach you with it. There are many cases on record where a Moro after being stuck with a bayonet, nevertheless pulled on the rifle so as to bring the soldier nearer to him, and when he was near enough swi-i-s-sh went the kris, and that is all there was to it! Naturally

the soldier instinctively hung on to his rifle—his only means of defense—even though it brought him within easy range of the kris. And so it was at Taglibi the other day that the Moro got the second soldier. In the meantime the bugler was sounding *Call to Arms*, and the men in barracks were running for their rifles. A few shots from barracks then took care of this Moro."

"What do you suppose happened to this man? Did he go juramentado?" I asked.

"No!" and the major laughed. "There hasn't been a case of anyone going juramentado for over twenty years, although the uninformed will claim that. Before a Moro goes juramentado he takes the oath to kill, which means he takes the oath as part of a religious ceremony in the presence of a priest. After that he knows he will die, but the more infidels he takes with him the higher will be his state in heaven. He therefore has no fear of death, for he expects it. That is the reason he is able to pull a bayonet deeper into himself if he can but kill the man at the other end of it. After the Americans made the law some twenty-five years ago that all priests must report to the nearest civil authorities as soon as someone came to them to take the oath to kill, the man taking the oath no longer had a chance even to get started, so the custom gradually stopped. No, this man did not go juramentado, he ran amok. That happens frequently with these people after a prolonged period of brooding over a wrong, real or imaginary. During this brooding a reaction takes place within them which prompts them to kill, and the victim may bear no connection whatsoever with the wrong originally committed against the killer. When such a killer runs amok he wants to kill, and anyone will do—anyone he sees! Many in the path of a Moro running amok have saved themselves by the simple expedient of disappearing into a doorway before the amok reached them, and the former would merely pass by, after those whom he could see. Incidents which may rouse this brooding are failure of a family to produce a promised dowry or dissatisfaction of a family at a recently concluded marriage to which they did not agree, or perhaps the desire to avenge a murder already committed."

As the major concluded his remarks it seemed to me that our guide should have had ample opportunity to get ready by this time, and the major sensing the thought anticipated my question by informing me that the guide was now waiting for us outside with transportation to take us to the foot of Bud Daho, where we would begin our climb. So we took leave of the major and went downstairs.

Imagine my surprise when instead of seeing the lone sergeant only, there he was in front of a squad of four constabulary soldiers, giving them commands to load and lock their weapons! They had two Springfield rifles and two sawed-off shotguns! My only conclusion was that the major was not quite so nonchalant as he looked.

After the loading our departure was further delayed while a fifth man, who had only a bolo, argued with the sergeant. After a moment of arguing in Tagalog the sergeant sent the man into headquarters. As we waited, puzzling over this performance, a third lieutenant (a third lieutenant is on a probationary status and is distinguished from a second lieutenant by not having any bars and by drawing only half the second lieutenant's pay) who had been standing by unnoticed, thought he had better give us a little explanation of what had taken place.

Said he, "There are two outlaws at large who are wanted for murder and natives have reported that they are hiding on Bud Daho. Since their two-week period of grace has expired in which they could have surrendered themselves safely and claimed rights to a fair trial, it is now a case of shoot on sight, either way, and they know it. Consequently the major has ordered that this squad go out with bullets in the chambers of their guns, and to shoot to kill, on sight. The outlaws have lost their chance to surrender."

Well! that was interesting! I did not have a round in the chamber of my pistol yet; but this little matter settled that question, for I determined to load the chamber as soon as we reached the mountain. More interesting still was the observation that the man whom the sergeant had sent into Headquarters did not return, but instead another one came out, armed with a kris; and the sergeant stated that we were now ready. The third lieutenant thought this called for an explanation too, so he told us, "The other man was to be the driver of our truck, but as he had to make the return trip alone, after letting us out, he was afraid of being ambushed. There have been many killings on that road, a Moro having been killed only two days ago while working on it. The major therefore substituted this man for the other."

It was apparent that this was definitely not going to be a picnic. Nor did matters appear any the more cheery when the sergeant rounded up three Moro guides from the market place, apparently at random. But I had to assume the sergeant knew what he was doing. After picking up the Moros it was only a few minutes' drive to the point where we were to enter the jungle. Here we dismounted and stepped into a narrow path, naturally falling into a single file. I was interested to see what disposition the sergeant would make of the various members of the party. He pointed at the two nearest Moros to lead off, presumably because they had bolos with which to cut brush where there was no path, and of course because they were to guide us. Then the sergeant did what I expected—he hesitated politely, indicating that if I wanted to I could follow the Moros. But nothing doing! It would have been assinine from a strictly practical point of view, for at that time I knew absolutely nothing about jungle fighting and nothing whatsoever about the Moro style of fighting. Then too,

I knew next to nothing about the reliability of the two Moros in front of me, so that if they decided to aid the outlaws in case of ambush I would have been trapped without having a fighting chance. What concerned me most, however, was how to distinguish friend from foe just in case we did run across someone before we got within arm's length of him. Naturally I did not want to shoot an innocent person; yet, withholding my fire for even a fraction of a second might prove fatal. On the other hand, with a constabulary soldier in front of me I could wait to see if he fired at approaching parties before I myself went into action. I therefore indicated for the sergeant to follow the two Moros, while I went immediately behind him. Charlie stepped in behind me, followed by a constabulary with a Springfield, then by the three carrying two shotguns and one Springfield, in that order. Bringing up the rear was the third Moro.

The soldiers looked about cautiously, the sergeant in particular always looking as far ahead as he could while advancing. But no one was more alert than I. Away off in the distance I could hear a born blowing so persistently that I began wondering if it might not be a signal by someone who knew of our approach. After a few minutes we broke into a clearing with a nipa hut in it. Beside it sat a boy blowing a grass horn whose sound carried for miles over the mountainside, a convenient signal for anyone disposed to use it as such. It occurred to me to destroy the horn, but after watching the boy closely for a moment I concluded that perhaps I was a bit too suspicious. Consequently I satisfied myself by merely putting a bullet in the chamber of my pistol. A click from Charlie's gun indicated that he was doing the same, although when we had previously discussed this question he had said that he was not going to load and lock his weapon.

This hut was the last one we saw. Leaving the clearing, we followed a winding path through a thick banana grove until we reached a stream bed. Here the path continued to skirt the foot of the mountain, while the stream bed afforded the only other break in the jungle which would permit us to climb without cutting underbrush. We went up the stream bed until we reached a hogback. Our guides stopped to determine whether this was the hogback which

would permit us to reach the top. There was no path anywhere so our guides turned sharply up the hogback and cut a path through the heavy jungle. After climbing slowly in this manner for several minutes our hogback came to an abrupt end, and there below us was an impassable, steep valley. So we retraced our steps to a point where we could cross a small ravine to another hogback.

What I call a hogback is one of numerous ridges which run straight down from the crater. In the days of the volcano's last eruption these ridges were flowing streams of lava which hardened into their present state, and which now afford the means of most rapid access to the crater rim. Before these ridges are ravines worn deep by the torrential floods washing down from the mountain, these ravines varying from ordinary stream beds to gorges, and all very difficult to negotiate—if they are passable at all. The usual high tropical trees fill these chasms, with a network of vines and underbrush covering the rest of the ground. Since the ridges simply shed the rains into the adjacent ravines, some hogbacks are unbroken by stream beds and are therefore comparatively easy to climb although they rise steeply near the top and are also heavily wooded. The trick lies in finding a ridge which will lead all the way to the top. After one or two more failures we found ourselves on a hogback which took us well up the

mountain. We were now no longer able to see the sky through the treetops towering one to two hundred feet above us. Nor could the sunlight reach us as we climbed up and up. The jungle foliage closed in on us from all sides and from above as we toiled upward. At every step we hung on to vines and trees, for at times the ridge was not wide enough for us to put a foot down, and an abyss flanked either side. Those American volunteers, our predecessors in the Philippines, did the unbelievable when they fought their way up this mountain. It was hard enough just to climb the mountain in the murky tropical heat, but they had to cut their way up just as we were doing, besides, in addition, fight for every step they advanced. I take my hat off to those men! No wonder the Moros respected them!

Our guides were chopping away; we could hear them but could not see them because they chopped a hole just big enough to pass a man. Now the ground went



*Cogon grass makes an ideal ambush.*

abruptly into a steep climb which it held to the very rim of the crater. Suddenly I realized that we were actually tunnelling our way upward and pulling ourselves upward by the roots of the trees much as we would pull ourselves up the rungs of a ladder. Leaves brushed our arms and backs. Again I thought of those American soldiers of the Insurrection as they fought up the very ground we were on. The enemy could lie concealed at their very elbows without giving themselves away—that is, until someone's head rolled off! From time to time we had to stop to rest and to allow the column to close up; if something happened the sergeant evidently wanted all members of the party within mutually supporting distance.

At last we reached the top of the crater, a ledge just wide enough for one man to stand on. On the outside was a steep drop of hundreds of feet, on the inner side the crater floor was about 100 feet below us. On exploring the crater bottom itself we ran across a natural spring which was itself set in a hole big enough to hold scores of Moros. This meant that even after the Americans stormed the crater they still had to subdue many of these strong points from which the Moros charged from time to time, then to which they again retreated. To an army able to take a fort like this from a fighter like the Moro, nothing is impossible; and I felt proud to be part of it.

Meanwhile the Filipino mind had been considering a question. When we reached the top, briefly looked around, and apparently did nothing, one of the Filipino soldiers asked Charlie, "Sir, why did you want to come up here?" The answer had to be acceptable and it had to be brief, so the only explanation Charlie could think of was, "My father died in the battle of Bud Daho and I wanted to see what the battlefield was like." That answer provoked thought and silence.

#### BAGSAC

About 4:00 o'clock next morning our launch pulled out of Jolo harbor for the island of Patian about ten miles away, just off the southern coast of the island of Jolo. Patian was the stronghold of Jakiri, the most famous Moro outlaw of all time. To this island rock Jakiri retreated when his days were numbered. He knew it would be his last battle, for one or two days before the final assault he gave his kris to the father of a Moro friend of mine. The Moro believes in fate, and he believes fate manifests itself through his weapon; once that weapon has been tried in battle and his fate has carried him safely through narrow escapes, the Moro begins to believe in a kind of invincibility which he associates with his weapon. Of course he knows he will eventually die, but he believes also that he will be spared longer than the average. He explains that those who are not spared are simply unlucky, while those who are spared are lucky. In the last analysis we believe the

same thing, although we don't necessarily attribute it to fate. So Jakiri knew his number was up when he gave up his kris. As I had seen Jakiri's kris and knew something of his last stand on Patian, I was eager to explore that small island rock. It was not my luck to get there, though, as the tide and currents chopped the sea up too much for our thirty-foot craft and we returned to Jolo, where the sun was shining brightly and the harbor was as calm as when we had left it.

After tying the boat to the dock we ate breakfast on deck in plain view of Filipinos and Moros to whom we were a great curiosity. We were, however, accustomed to eating in all our camps and bivouacs in the presence of great crowds and so did not mind this attention. After breakfast we sat back and looked the crowd over, when whom should we see but a former fellow-passenger who had travelled with us for two weeks as we made the trip from Manila to Jolo. It was Mr. A. R. Thompson with his two attractive mestiza daughters—remember, he had married a Moro woman. He was as delighted with the meeting as we were, for he had expected us to be gone by this time. We then told him we had stayed over to climb Bud Daho, and that we had made a further but unsuccessful attempt to visit Patian island from which we had just returned. He then invited us to have dinner with him at his home, ten miles outside of town, after which he would show us Bagsac, the mountain on which General Pershing had administered the final decisive defeat on the Moros in 1912. The Bud Daho battle as you know was the first decisive defeat of any magnitude which the Moros had suffered in historic times, coming at the hands of General Leonard Wood in 1904. But it required the battle of Bagsac eight years later to break the power of the Moros and make them accept American rule.

Bagsac like Bud Daho is another little-known epic in the history of American arms. Thompson had been a stretcher bearer in that engagement and recalled that during the last day's fighting he counted over one thousand Moro dead on top of the crater. In order to get some idea of the fierceness and magnitude of the engagement, compare that figure of one day's casualties with the fifteen hundred killed in one day during the German mass attacks on Sevastopol, according to an Associated Press release from Moscow dated June 22, 1942. But as already stated, Bagsac and Bud Daho are unsung epics of the valor of American arms—little known because some of the dead were women. That does not detract from the glory of the victory, however, because the Moro women always fought by the side of their men if they could get timely advance warning so as to reach the cota (fort) before the attack. It was, moreover, impossible to distinguish men from women because they dressed practically alike. Men liked brilliant colors as much as did the women, so both wore colorful pajama-like suits. On the other hand, the men sometimes wore

a cloth which when wrapped around them looked like a skirt. And since all men always wore turbans or other type of headgear, their shortcropped hair did not serve to identify them.

Bagsac, although another old crater, was otherwise unlike Bud Daho. It was wooded only in one draw which ran all the way to the top, the rest of the mountain including the crater being covered with tall cogon grass which grows higher than a man. As we climbed a long slope toward the base of Bagsac Thompson pointed out a draw, one side of which was heavily wooded while the other was tall cogon grass—just as it was in 1912. The American forces advanced up this draw and took the crater, which was below the top of the mountain on the side opposite our approach. In 1912 the mouths of several caves opened near the mountain top; these were connected by underground passages to the crater. We ran across two or three of them as we ascended. Thompson explained that the Moros had extended trenches from the mouths of the caves in which they hid until the Americans drew close,

whereupon they charged them before they could use their weapons. It amounted to an ambush followed by a retreat to the caves. When the Americans surrounded any one of the caves the Moros disappeared by underground passages only to reappear elsewhere.

On this climb a little incident occurred which decided once and for all my carrying a pistol wherever I went in the Moro country, for besides Thompson who carried a pistol, there were his two daughters and a trusted Moro servant, all of whom carried rifles. The girls stopped at a point about 150 feet from the top, where the climb was too steep for them. As Thompson prepared to leave the girls in the care of the Moro servant he warned them all to halt all approaching parties at thirty yards, and if they did not halt, the girls and the servant were to shoot to kill without asking further questions. Whereupon Thompson handed his rifle to one of the girls, he himself keeping his pistol and coming with us.

*(To be concluded)*

---

Approximately 2,000 officers are at Fort Sill, either as students or as instructors.

Every day we get letters from officers who say, "I have been ordered to Sill. Send my JOURNAL to me there."

Now think it over! There are a B. O. C., F. O. C., Div. Arty. Class, and classes in Communications, Motors, and Horsemanship. There are hundreds of officers in some of those classes. When you are ordered there, please give us the NAME of the course and its NUMBER. We'll get your JOURNAL to you.

**NOTICE OF ANNUAL MEETING, U. S. FIELD ARTILLERY  
ASSOCIATION**

**In compliance with Article VII, Section 1, of the Constitution, notice is hereby given that the Executive Council has fixed 5:30 PM, Monday, December 14, 1942, as the time of the annual meeting of the Association to be held at the Army and Navy Club, 1627 Eye St., NW, Washington, D. C.**

**The business to be disposed of will be the election of three members of the Executive Council (two Regular Army and one Organized Reserve), and the transaction of such other business as may properly come before the meeting. Nominations may be made by proxy, or from the floor of the meeting.**

# Color-Lubrication Plan

By Lt. G. R. Metcalf, FA

The catalyst for success in combat today is high speed and maneuverability. A Color-Lubrication plan which has been tried and found satisfactory is suggested as a means of accomplishing this.

Sometimes drivers lubricate with heavy oil where light should be used, and vice versa; one might say it was the fault of the Motor Officer, and in many instances that criticism is well taken, but neither Motor Officer nor Motor Sergeant can check *all* work and damage is often done before appropriate steps can be taken. Likewise, it is not difficult for the driver to make honest mistakes when he must use several different oils: marks identifying type of lubrication and points to be coated are often scanty or entirely lacking. All who have worked in maintenance shops know the tendency for miscellaneous cans to gather—an easy prey for careless drivers.

## DRIVER TAUGHT BY COLORS

With a color system, men learn to lubricate only by color. If a driver is definitely taught to put only "red" oil on "red" lubrication points, "blue" oil on "blue" points, etc., and acquires a vocabulary of colors instead of Marfax 1, SAE 20, or what have you, there can be no possibility of a vital part going unlubricated unless one is color blind—which drivers shouldn't be! The present method of looking for Texaco 3250 or Sinclair Un-2 and finally having to ask the Motor Sergeant to take the responsibility, would give way to "Hand me the 'red' (or 'blue') oil," and no more.

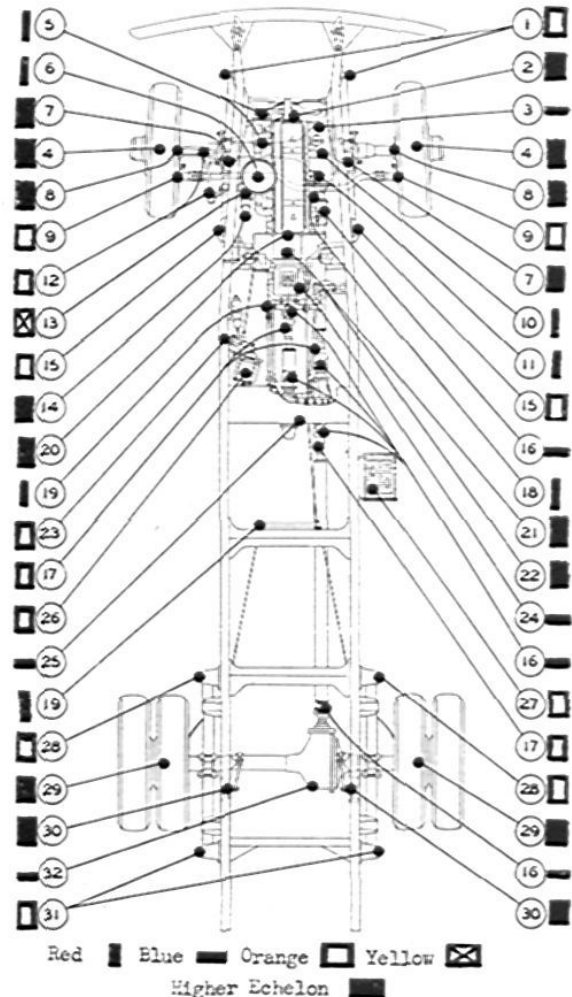
Obviously, battle conditions are still tougher. Truck drivers become casualties, and others less experienced must take over. In the confusion of such unstable conditions, inexperienced men have to lubricate to keep the column moving. The ordinary enlistee, inserted into an emergency breach during combat, could with color-lubrication accomplish his job successfully—at least well enough to keep the vehicle moving. He would only be required to locate the color points.

Fully developed, the color-lubrication plan would entail distribution of red oil drums through channels to separate battalions and companies; from them each driver would fill his own red oil can for use on red points. "Blue," "orange," and "yellow" oil would be distributed by identical methods. Under this method, responsibility for introducing and retrieving winter and summer oils would rest solely with higher supply echelons. From battalion motor officer down to the last individual driver, change of season would mean nothing; "red" oil is "red" winter or summer. Higher authorities would always provide for necessary changes.

For years the Army has used colors to designate different type shells. Oil ducts on the M1897 have long been painted red to help less experienced gunners. Colors should be equally applicable to motor vehicles.

## COLORS AND POINTS TO WHICH APPLIED

RED (Texaco 3050)	BLUE (Sinclair Un-2)
5. Generator	3. Differential (Front Axle)
6. Air Cleaner	16. Propeller Shaft Universal Joints
10. Crankcase	24. Transmission
11. Distributor (a) Breaker Cam (b) Wick under Rotor	25. Transfer
18. Starting Motor	32. Differential (Rear Axle)
19. Control Linkage	
<hr/>	
ORANGE (Marfax 1)	YELLOW (Texaco 1150)
1. Front Spring Shackles	26. Power Cylinder
9. Front Axle Tie Rod Ends	27. Battery Terminals
12. Steering Connecting Rod Ends	28. Rear Spring Eyes
15. Front Spring Eyes	31. Rear Spring Shackles
17. Propeller Shaft Slip Joints	
23. Power Cylinder Lever Bracket	13. Steering Gear Housing



# Diary of War Events

## AUGUST, 1942

- 1st Germans break Stalingrad-Caucasus railroad at Salsk, 100 miles southeast of Rostov.  
600 R.A.F. planes raid Dusseldorf, Germany; 31 lost.  
U. S. planes shoot down 17 Jap planes in 2 days in China.
- 2nd Russians check German drive above Stalingrad, slow Salsk attack.  
Germans bomb southeast England towns.
- 3rd Germans widening Don bridgehead at Tsimlyansk, 120 miles above Rostov.  
Italian warships shell Yugoslav coast towns to quell guerrilla uprising; 3,000 Axis soldiers killed.
- 4th Germans advance 50 miles on Stalingrad-Caucasus railroad, gain also in Don bend.  
Chinese recapture Huwan, attack Linchwan (Kiangsi province) after U. S. air bombardment.
- 5th Germans cross Kuban River, 160 miles southeast of Rostov; Russians withdraw in western Caucasus.
- 6th Center and southern part of Russian line yield somewhat; Russians advance slightly above Stalingrad.  
Japs occupy islands north of Australia between Timor and New Guinea.  
U. S. merchant ship sunk with loss of 25 of 406 passengers.
- 7th Germans advance 80 miles to within 50 miles of Maikop oil fields; southern arm of Stalingrad pincer gains.  
U. S. planes in China destroy 10 Jap planes on ground near Canton.
- 8th U. S. Marines invade Jap-held Solomons, 1,000 miles northeast of Australia.  
Germans advance on Maikop oil fields, gain south of Stalingrad.
- 9th Germans capture Maikop, reach Caucasus foothills.  
U. S. troops on Solomons meeting stiff opposition.
- 10th One U. S. cruiser lost in Solomons action; troops advancing in Tulagi area of islands.
- 11th Marines repulse Jap counterattacks on Solomons.  
Germans, advancing in Caucasus, within 200 miles of Grozny.
- 12th Drive to wipe out Jap's Solomon air bases continues against strong resistance.  
Russians fall back in west-central Caucasus.
- 13th Marines seize airfield on Guadalcanal (Solomons), close in on Tulagi harbor.  
Germans advance 50 miles along Rostov-Baku railroad, only 140 air miles from Gromy oil fields.
- 14th Marines fighting to oust Japs from remaining bases on Solomons; U. S. controls sea lanes.  
Germans' northern pincer on Stalingrad crosses Don.
- 15th Germans' southern pincer menaces Astrakhan and Stalingrad; Germans on defensive in Voronezh and Vyazma-Rzhev fronts.
- 16th Russians withdraw toward Grozny oil fields.
- 17th Almost all Don bend in German hands; Stalingrad front holds.  
U. S. Army bombers raid French targets in first mass raid.  
5 Brazilian ships sunk off her coast; 2 more United Nations merchant ships sunk.
- 18th Germans gain north of Stalingrad, repulsed to south.
- 19th Largest Commando raid blasts Dieppe installations; some Americans take part; large air losses on both sides as R.A.F. dominates skies.  
Russians evacuate Krasnodar on southern front.  
Chinese recapture Wenchow, Chekiang port.
- 20th Germans gain on road to Grozny oil fields.  
Chinese recapture 50 miles of Hangchow-Nanchang railroad.
- 21st Russians block major crossing of Don 40 miles above Stalingrad, yield slightly below city.  
Marines destroy Jap seaplane base in hit-and-run raid on Makin island in Gilbert and Marshalls.  
Chinese recapture 5th Chekiang city in month.
- 22nd Brazil declares war on Germany and Italy.  
Russians hold at Stalingrad.  
Chinese hold 100 recaptured miles of Hangchow-Nanchang railroad.
- 23rd Germans cross Don 20 miles northwest of Stalingrad.
- 24th Germans reach edge of Grozny oil fields; huge battle for Stalingrad raging on plain between Don and Volga.  
Chinese recapture Linchwan, Jap base in Kiangsi.
- 25th Germans assault Stalingrad defenses with 1,000,000 men, advance slowly.  
Jap naval counterattack in Solomons beaten off.
- 26th Russians retreating in Grozny oil fields; Russian counterattack northwest of Moscow advances on 70-mile front.  
Patrol activity increasing on Egyptian front.
- 27th U. S. Navy and land-based planes beat off Jap naval attack on Solomons.  
Russians hold at Stalingrad, advance to Rzhev outskirts north of Moscow, retreat slightly above Grozny.
- 28th Russians hold at Stalingrad.  
Chinese recapture Chuhsien and Lishiu—Kiangsi air bases within range of Japan.
- 29th Russians hold at Stalingrad and in Caucasus foothills.  
3 Jap destroyers sunk off Solomons.
- 30th Chinese recapture Nanchang, chief Jap base in Kiangsi.  
Russians counterattack at Stalingrad, hold Grozny.
- 31st Rommel attacks British southern flank in Egypt.  
Germans crack Stalingrad defenses at point southwest of city.  
Chinese attack last Jap base in Chekiang region.

# Not in the BOOK

## "SUBBEST" SUB-CALIBER

Since the terrain board and blackboard firing lack realism, the 150th FA Bn has set up a "Dust Bowl" range, taking advantage of the adversities of its environment. A miniature range has been set up to scale. In operation, the OP has the usual communication personnel but they are connected with a truck in the target area instead of with the guns. Gun positions are represented by stakes over which BC 'scopes are erected to check data. In the target area a cord is stretched to represent the GT line; it has knots representing *c* changes. In the truck are the FDC personnel: computers, recorders, 'phone operators.

When firing commands come down and are converted, the dust nuisance becomes a training asset: a sergeant fires an air rifle from the truck, and the common BB shot makes an excellent miniature burst. "Bursts" are observed from the OP with instruments and corrections made as in any type of firing. As the range is to scale, the factors work fine.

More realism is added by an occasional BB's striking a stone or tuft of grass; no dust equals a dud. Dispersion is good, too, due to certain marksmanship errors, and even a few erratic rounds may be noted.

Another advantage is of course the fact that all enlisted personnel receive valuable training, as well as the officers.

LT. COL. BEN H. WATT

EDITOR'S NOTE: This feature is devoted to ideas sent in by our readers describing methods or devices which, though not specified by official literature, have proved useful in service.

## COMPUTING THE ADJUSTED ELEVATION

Many young officers have considerable trouble in computing the adjusted elevation correctly, but their paths can be made much easier by a slight change in method. Simply change the old rule *F* or *c* times the difference in overs and shorts divided by 12 to read

$$\frac{F}{12} \text{ or } \frac{c}{12} \times \text{difference in overs and shorts.}$$

The advantage in this equation is that the conversion factor can be computed along with the initial data. Thus if the fork is 6 we know the *cf* is  $\frac{1}{2}$ , and as soon as the difference in overs and shorts is determined it does not take much of a mathematician to compute the result.

After a little use these conversion factors can be remembered. Thus where the value of *F* or *c* is

	1	2	3	4	5	6	7	8	9	10	11	12
cf =	.08	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{3}$	.4	$\frac{1}{2}$	.6	$\frac{2}{3}$	$\frac{3}{4}$	.8	.9	1

Example: *F* = 3, *cf* =  $\frac{3}{12}$  or  $\frac{1}{4}$ . If difference in overs or shorts equals 2, the correction is  $2 \times \frac{1}{4}$  or  $\frac{1}{2}$  or .5.

CAPT. E. T. BARCO, JR., FA

## BRITISH BITS

In Syria, British batteries used standard forms (6" × 12") for place-marks with the novel feature of a small panoramic sketch to enable the battery executive to locate the reference mark or other object, and materialize it on the ground.

Observers used panoramic sketches extensively. These drawings were routine, and were practically the only means available in the transmission of target locations incident to the relief and replacement of OP personnel throughout the Middle East campaign. The one shown below was made west of Damascus in preparation for supporting fires to be delivered during the attack along the Damascus-Beirut road, early in July, 1941.

LT. COL. DAVID LARR, GSC

Name of Gun: *4.2 inch* Army Form 8230

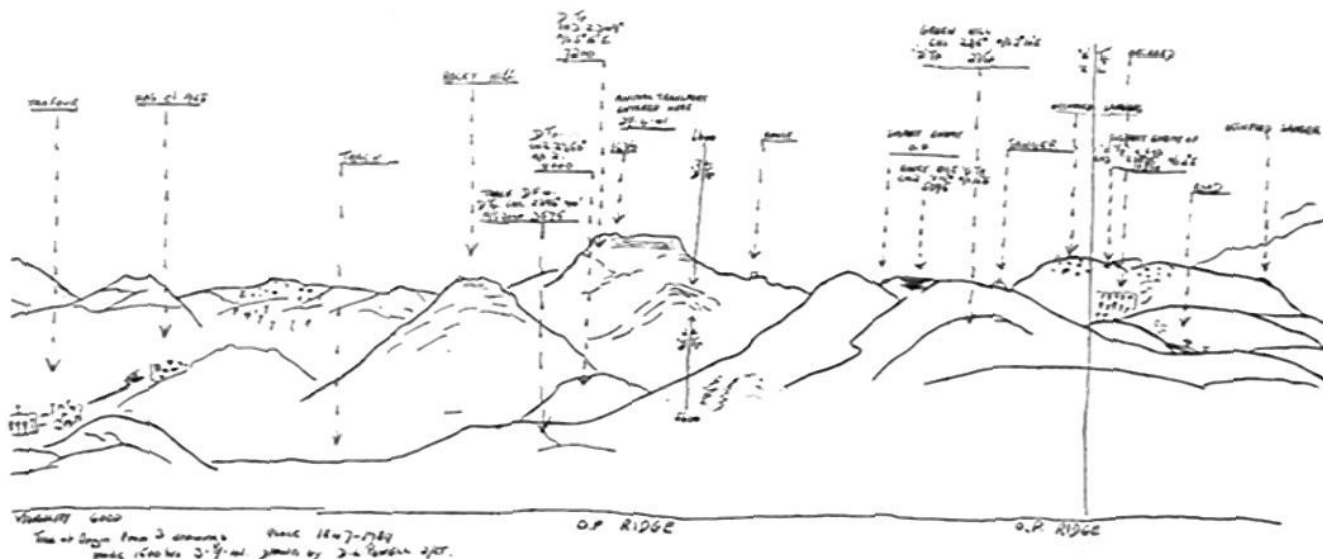
BEARING PICKET No. *187109* HEIGHT:

Coordinates: *187103 187109*

Object	Description	Azimuth		Grid Bearing		B. P. C.	Line on B.P.C.	
		Distance	Direction	Distance	Direction		Diagram	Notes
<i>Large Rock</i>				<i>505</i>	<i>50</i>			
<i>Tree (Main)</i>				<i>178</i>	<i>172</i>			

\*NOTE—These tables are for use with distances graduated 100 ft. to 1 mile.

Prepared by: *Planner* Checked by:





**BORE SIGHTING OF X-CALIBER 37-MM. AT GUNS**

The methods used by our AT platoon for bore-sighting x-caliber equipment were, until recently, very crude. Each chief of section bore-sighted his piece on the center of a rectangle on the 1,000" target which receives the bullet impact. Then the sight was moved with the adjustments until the 600-yard dot was on the center of the corresponding black tank-silhouette. When this procedure was completed, one round was fired and the adjustment checked. If it was not correct, and it was rare indeed that it was, on the first shot, the tube was realigned and a guesswork change made. This was followed by another round for another try. These operations were repeated until an adjustment was accomplished, sometimes requiring as many as 15 shots as well as a great amount of time which could have been used for shooting.

The present method is very simple, requiring the use of only one round. A second one may be fired to double-check. The complete operation is as follows:

Place a black target patch over the numbers under both the No. 1 tank silhouette and the No. 1 target rectangle. This establishes centers for aim and bullet impact in the same relationship as the line of sighting and the line of fire. Boresight roughly on the black patch on the lower right hand side by looking through the bore. (Extreme accuracy is not required because the final adjustment absolutely zeros it anyway.) Loosen the locking screws on the sight, and by means of the adjusting screws center the 600-yard dot on the black patch at the upper left (just below the tank-silhouette); reset the locking screws. Fire one round with the line of sight directed at the black patch below the tank-silhouette, and mark the point of impact with a third black patch.

The final step consists of directing the line of sighting at the lower right hand patch (the second patch placed, the one over the number beneath No. 1 target rectangle), using the elevation and traversing handwheels. Again loosen the setscrews and without disturbing the laying of the piece center the 600-yard dot of the sight on the third patch (point of impact of the first round) with the adjusting screws. Reset the locking screws and the weapon is ready to fire. It is at this time that the second round may be fired if it is so desired.

LT. JOHN W. SALYARDS, FA

**GRAPHICAL TABLES FOR THE 105**

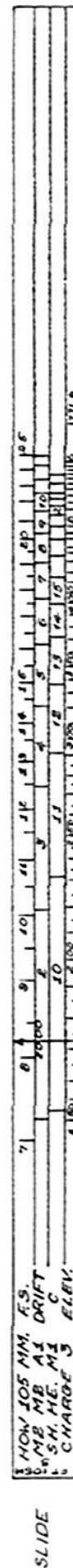
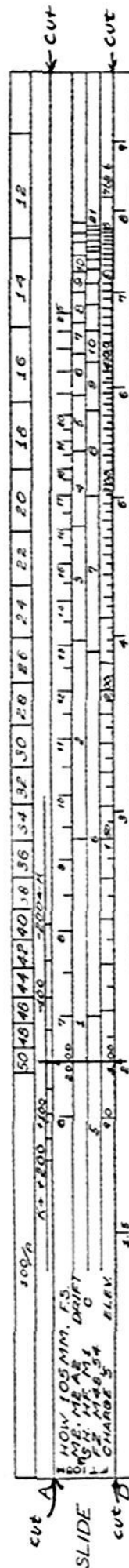
Slide-rule graphical firing tables from Sill worked out so well for the 75-gun and 155-how. that we wanted something of the sort for use in our 105-how. battalions. We therefore drafted scales to the proper size to fit a 10" commercial rule, the drawing was reproduced by our division's combat engineer battalion, and nearly every artillery officer bought a 25c rule with reversible slide. After a little gluing each had a scale accurate enough for use in conduct of observed fires or for checking purposes in the FDC.

The top portion marked "A" is glued over the "A" scale of the standard rules, and the two parts marked "slide" are glued to the two sides of the slide. After gluing, the proper place to line up is at the 2,000-yard mark, which should be opposite "2" on the "D" scale.

In use, the rule functions exactly the same as the large rulers from the School (see the JOURNAL for May, 1941, page 284), except that the K scale is moved to the upper left corner and scales for elevation, c, drift, and fuze setting for graze burst are in reverse order. From 1,000 to 10,000 yards, the "D" scale becomes a range scale in thousands of yards.

As reproduced here, the scales are of exact size for mounting or for direct tracing or other duplication for use on standard 10" rules.

MAJ. E. S. BECHTOLD, FA



Standard 10" slide rule

# BOOK REVIEWS

*SCHOOL OF THE CITIZEN SOLDIER.* Adapted from the Educational Program of the Second Army, Lt. Gen. Ben Lear, Commanding. Edited by Lt. Cols. Robert A. Griffin and Ronald M. Shaw. D. Appleton-Century Co., Inc., 1942. 532 pp. \$3.00.

Several months before we were at war, General Lear noticed that many soldiers—like much of the civilian population whence they came—did not comprehend and understand the stakes of the war and the necessity for diligent and arduous training for our probable entry into that war. He decided that improvement of the Army's intellectual background would widen the mental and spiritual horizons of many, give new understanding to others, and would increase the interest of all in current events. He therefore, over a year ago, ordered studies made of this problem and a course of lectures prepared.

The happy results have just been published in book form, after being in actual use with the greatest success since the first of the year. In addition to Parts on *The World Crisis* and *The Armed Forces* prepared by the Second Army Board, others were prepared by highly qualified professors of Yale University: *Geography and World Trade* by William G. Fletcher, and *American History and the Constitution* by Ralph H. Gabriel. Many other civilian educators also contributed advice, counsel, and material for the program.

Covering a wide field, with easily-written and -read chapters, this volume is an amazingly useful refresher course, as well as enlightening to those who have not had the advantage of previous schooling in its topics. Of greatest interest and value are probably the "citizenship" Part III on American history, and Part IV which covers the armed forces of our own country, Japan, and Germany. This material is not in conflict with nor even duplicated by

the War Department Orientation Course, which can well be given to the men concurrently. This book, however, is of as much value to officers as to anyone else, in or out of the army.

*WEST POINT, MOULDER OF MEN.* By Major William H. Baumer, Jr. D. Appleton-Century Co., Inc., 1942. \$3.00.

This is a good time to be reminded of the greatness of the fountainhead of our military traditions. Major Baumer's book is a popular account of the growth and development of the United States Military Academy, with the emphasis on the West Point of today. He sketches its history from the unsteady beginnings of 1794, the strengthening period of the great Sylvanus Thayer, down through the liberalization of MacArthur.

Throughout its existence West Point has adapted itself remarkably to the changing character and needs of the country it serves. When an expanding nation, starting from scratch, needed technicians, the accent of the curriculum was on mathematics and engineering. Men trained in the same tradition fought through the bloody stalemate of the Civil War on opposite sides, cleared our plains of savages, and opened up through their explorations the vast reaches of this continent.

The U.S.M.A. has always been self-critical, never complacent. The latest restatement of the "mission" of the school (in 1939) says that its aim is "to produce officers of the Army having the qualities and attributes essential to their progressive and continuing development throughout their careers as officers and leaders." Major Baumer's detailed account of the lives and studies of the modern cadet shows just how this aim is accomplished.

L. B. C.

## DISCOUNT OFFER

**For cash with order, the U. S. Field Artillery Association can obtain for its members 'most any books (texts, biographies, histories, fiction) at the following discounts:**

**On orders amounting to at least \$2.50, 10%**

**On orders amounting to \$10.00 or more, 15%**

**No discount possible on Government publications, however.**

**We pay postage.**

*CARBINE AND LANCE, The Story of Old Fort Sill. Lt. Col. W. S. Nye. University of Oklahoma Press, 1942. \$3.00.*

This history of a military post is a rousing and authentic adventure story, not a dry-as-dust document for the archives. Credit for this accomplishment must be divided between the author's incomparable gift of making history live and the accidents of history that made the Fort Sill country the scene of the last and most exciting episodes in the pacification of the Indian.

They're all here, the story-book Kiowa and Comanche chiefs—Satank, Satanta, Big Tree, Kicking Bird, Lone Wolf, White Horse. Decked out in their feathers and war-paint they charge through the pages of this book furiously resisting their inevitable domestication. They kill to bolster a glory that is somehow fading (and if they don't touch the fallen enemy, it doesn't count). They make medicine against the disappearance of the buffalo, their diet's staple, yet they think they are more numerous than the white men who are slaying the bison by the herd. They fight with skill and wild courage, yet they will die rather than fight without their war-paint on.

The period 1855-1880 occupies the major part of *Carbine And Lance*. It was then that the Indians of the plains felt most strongly the pressure of our expanding frontiers and resisted it with their savage depredations. Individually they were fierce and skillful fighters, lacking only discipline, organization, and numbers to make them a formidable foe of the post-Civil War army. As it was, they were the main concern of a large part of the army, and Sherman himself, as Chief of Staff, dealt personally with the chiefs guilty of the Warren wagon-train massacre in 1871. Fort Sill in those days was a lonely outpost, one of a rather weak chain protecting the scattered homesteads of the whites. The War Department, optimistic about the domestication of the Indians, was always on the verge of abandoning it. (The doubt about Fort Sill as a permanent post was finally resolved only in 1930, when the Field Artillery School was permanently located there.)

Then there were the misguided attempts of the Quaker agents to tame the Indians with liberal applications of brotherly love, a policy a little too advanced for the redskins to appreciate. The Quakers sentimentally frustrated the efforts of the military to protect the white settlers, and the Indian reservations became merely secure bases from which the Kiowas and Comanches conducted their marauding expeditions. The idealism emanating from Washington also fell short of providing the Indians with rations sufficient to discourage them from raiding the Texas cattle country, and there was a persistent mistaken belief that the buffalo was not becoming extinct.

The stop-gap policies finally became too much even for the long-suffering Quakers, and General Sheridan

# DO or DIE

by COL. A. J. D. BIDDLE

IS THE

## OFFICIAL MARINE CORPS

MANUAL ON

## INDIVIDUAL COMBAT

50c per copy

☆

(See discount offer on page 808)

☆

Written by a master student and practitioner of the subject, who is also official instructor to the Marines, F.B.I., and Air Force, it includes:

**Jiu-jitsu (from the Japanese)**

**Defendu (from the Shanghai police)**

**Savate (from the French)**

**Boxing (from such immortals as Bob Fitzsimmons)**

**Knife Technique (from Col. Bowie and from the French, Spanish, and Russians)**

**Bayonet Fencing (from the world's masters of the blades)**

*Thoroughly Illustrated by Photographs.*

**NOW AVAILABLE**

to Army, Navy, Police, and Civilian  
Defense units and members

**EXCLUSIVELY through**

**THE**

**U. S. FIELD ARTILLERY ASSOCIATION**

1218 Connecticut Avenue

Washington, D. C.

Praised Throughout the Service

# THE ARMY WIFE

By NANCY SHEA

## What She Ought to Know About the Customs of the Service and Managing an Army Household.

The way the wife of an Army officer meets the expectations of the Service affects not only her own happiness, but also considerably influences her husband's career. This readable and informative picture of Army life from the woman's viewpoint shows what she may expect from the Service and what the Service expects of her.

"At last, the book we've all been waiting for. It covers the problems of Army life from every angle." — ELEANOR P. ARNOLD (Wife of Lieut.-Gen. H. H. Arnold).

**\$2.50**

(See discount offer on page 808)

**Order Your Copy Directly From**

**THE U. S. FIELD ARTILLERY ASSN.  
1218 Connecticut Ave. Washington, D.C.**

was authorized to conduct the campaign of 1874. The object was to separate the redskin sheep from the goats and to let the latter know that the government intended to put an end to their lawless butchery. The campaign, which Col. Nye describes in exciting detail, broke the back of organized Indian resistance and convinced the majority that bucking the white man was useless.

Having abandoned the fight, the Indians in a few short years went through all the psychological manifestations of the decadence of a people. The False Prophets and the Ghost Dance marked a great increase in their always prevalent superstitions, and they worked endless medicine for the return of the good old days. Domestication was slow and difficult for nomadic tribes with a great contempt for agriculture.

All through the narrative runs the story of old Fort Sill, its importance progressively increasing. In several appendices Col. Nye brings the history of the post up to date. *Carbine And Lance* was first published in 1937. This revised edition is beautifully illustrated with a large number of rare old photographs and maps. Col. Nye's careful research led him to learn the Indian sign language, and he has talked with eye-witnesses of almost all the events he describes. His easy style and dry humor are just right for the subject.

*Carbine And Lance* is as thrilling as (and much more accurate than) the tales of James Fennimore Cooper. No Field Artilleryman can help being fascinated by the story of old Fort Sill.

L. B. C.

★ *The first and only book  
that answers all your  
questions on—*

## PERSONAL FINANCE AND MANAGEMENT for the ARMY OFFICER

by

Lieut. Col. Charles R.  
Hutchison

*Assistant Professor of Economics and  
Government at West Point*

This is the only book of its kind ever published. Regardless of your rank or experience, it will help you solve the problems of finance and management that confront all officers in wartime.

*Illustrated \$1.50*

(See discount offer on page 808)

THE  
U. S. FIELD ARTILLERY ASSN.  
1218 Connecticut Avenue, N. W.  
WASHINGTON, D. C.

### Some of the Subjects Covered:

Credit  
Insurance (General and  
Government)  
Spending  
Maintaining a home  
Controlling household  
expenditures  
Maintaining a bank  
account  
Savings and Investments  
Owning a car  
Taxes  
Rights of Army  
personnel in event of  
disability or death

*ONLY THE STARS ARE NEUTRAL.* By *Quentin Reynolds.*  
*Random House, 1942. \$2.50.*

*Only the Stars are Neutral* might well have been titled *A Glimpse Behind the Headlines*. It is an intimate, lively account by a keen first-hand observer of some highly significant incidents of the war. With spontaneous directness the author recounts his adventures in gathering war stories. Aside from the grip of the stories themselves you can feel the personal effort, the ingenuity, the careful strategy that has brought them into print.

Quentin Reynolds had a way with censors that was surprising even to himself. He nearly tripped on the telephone call from 10 Downing Street until he found it was not, after all, a practical joke cooked up by his brother and sister war correspondents.

In his job of "humanizing" Mr. Churchill for his readers he gives some clear, close-up glimpses of the "P. M.," not only as a "P. M.," idol of England, but as a husband, father, and genial, homey host.

The author's ingenuity met one of its severest tests in his battle of wits with the Soviet censorship, but at least he made his way into the presence of Stalin as a dinner guest, with the warning, however, "Remember you are

not to write anything about tonight." At least he could quote a translation of the 23-course menu, and corroborate the description of Stalin by an English correspondent, "He looks like the kindly Italian gardener you have in twice a week." He really does much more than that: he gives you Stalin the man with human reactions not so different, fundamentally, from yours and mine.

It is the same with other war personalities he somehow managed to meet and greet. He makes remote headline figures into folksy creatures who eat and breathe and react.

Despite the fact that throughout the book you constantly sense the censors, you get some unusual, close-up views of the war and an acquaintance with its leading figures convincing you that they are really people. It subtly brings you to an agreement with the author that "This is a people's war . . ."

F. E. J.

*INDIA TODAY.* By W. E. Duffet, A. R. Hicks, and G. R. Parkin. The John Day Company, 1942. 165 pp. \$1.75.

Written by three Canadians, *India Today* is about as unbiased a picture as is available. It is considerably more than a thumb-nail sketch, despite the ground covered: population and social structure, economic structure, constitution and government, external relations (particularly among the dominions), the political groups of the country, the nationalist movement, politics in the present war, and a gallery of Indian political leaders. It is well up to date, carrying through the Cripps mission and on through the latter part of May, 1942.

This statement of the complexities of India and its relations with Britain is most welcome. Literature on the subject has been scarce, and what existed was mostly colored by the partisanship of the writers. These particular authors, however, realize the importance to the United Nations of having the troublesome Indian problem settled, and definitely do their part by giving an excellent, restrained account of the current situation.

*WIRELESS AND HOW IT WORKS.* Adapted from similar title by Stuart Legg and Robert Fairthorne. Longmans Green & Company, New York, 1942. 40c.

This little pamphlet, printed in Great Britain, provides a good introduction to radio. It is intended to help those who want a "first picture" — the origins of radio and the way it works. No detailed descriptions of sets or mathematical formulae are included, text-books being the proper source for such information, but the job is done adequately.

## HOW TO WIN IN HAND-TO-HAND FIGHTING

*As taught to the British  
Commandos and U. S.  
Armed Forces*

# Get Tough!

By MAJOR  
W. E. FAIRBAIRN

At present Major Fairbairn is in the United States, on loan from the British Army, teaching close-combat to instructors of the U. S. Armed Forces.



- ▶ **You don't need brute strength.**
- ▶ **It isn't jiu-jitsu.**
- ▶ **It's "dirty fighting" raised to a science.**
- ▶ **It's 100% effective.**

*It's a system so deadly that it has the Nazis buffaloed. It has enabled the Commandos in their attacks to raid the French and Norwegian coasts at will — bringing back prisoners and leaving demoralized German garrisons in their wake. One British officer, Lord Lovett, led a Commando attack after being Major Fairbairn's pupil for only two weeks. When he returned from that raid he summed up the unfailing efficiency of this method in a two-word cable to the Major: "It works."*

It is better than jiu-jitsu (judo). It is potent with or without weapons. It gets results *fast*. It serves every requirement of the man who can't call for help—who may have to battle several opponents, come out alive and bring in prisoners.

It is the best guarantee that you will *win* when you meet the enemy in hand-to-hand combat.

*Illustrated.*

**\$ 1**

(See discount offer on page 808)

**THE  
U. S. FIELD ARTILLERY ASSOCIATION**  
1218 CONNECTICUT AVENUE WASHINGTON, D. C.

For a complete understanding of strategy in the Middle East . . .

... Read this authoritative book on the economic, political, as well as military factors that will determine the outcome in that theater.

## OIL, BLOOD AND SAND

**Stakes and Strategy in the Middle East**

By Robert L. Baker

The Caucasus, Egypt, Libya, Iran and Iraq, Trans-Jordan, Turkey, Syria, Palestine and Arabia, are the vital battlegrounds on which World War II may be won or lost. This new book presents the fullest possible picture of them and describes in revealing detail their strategic relation to the future of the War.

**\$2.50**

(See discount offer on page 808)

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

*To all our readers we recommend*

## THE JOURNAL of the ROYAL ARTILLERY

*Published Quarterly*

**5 SHILLINGS PER COPY**

**£1 PER YEAR**



*Address: The Secretary, The Royal  
Artillery Institution, Woolwich,  
London, S. E. 18.*

*THREE FAMOUS SPY NOVELS. Complete and unabridged in one volume. Selected and with an introduction by Bennett A. Cerf, Editor of the Modern Library. Random House, 1942. 569 pp. \$1.98.*

For sheer relaxation and enjoyment, nothing can take the place of the mystery story unless it be a spy story. Good ones are scarce, though. In search of them Mr. Cerf read all that he could find which had been published since 1916. He read so many, in fact, that he suspects everybody he knows of being a member of a spy ring, blueprints are hidden in his mattress, and restaurant walls have secret panels. I am glad to testify, however, that he has retained his delightful disposition and hospitality, and quite recovered whatever sanity may have wavered during the gestation of this book.

But what are the novels?

Lead-off story is *The Great Impersonation*, probably the very best of all the books by E. Phillips Oppenheim. No youngster even when this was written in the '20's—he is now 76—Mr. Oppenheim still has no peers in spinning an exciting and fast-moving story, whatever you may think of his style at times. And it is meat that counts in tales of this type.

Eric Ambler's *Journey Into Fear* is written in the language of today, the prose is stripped to the bone. I started this book with this story, and quite agree with Mr. Cerf when he says Mr. Ambler's style "pins you back against the wall with the force of a Nazi storm-trooper with a rubber truncheon in his paw." Though he wrote *Journey into Fear* two years ago, Mr. Ambler had a good nose for what was coming along later!

*The Confidential Agent* by Graham Greene completes this trilogy. And it is well up to the standards of the first two yarns.

Only personal censorship, not official, prevents giving here anything of the plots—it is just plain ornery to spoil anyone's enjoyment of a *whodunit*. You're assured, however, that each of the three stories is well worth more than the price of the three together.

*ENGINEERS IN BATTLE. By Lt. Col. Paul W. Thompson, CE. The Military Service Publishing Co., 1942. 108 pp. \$1.50.*

No dry dissertation, *Engineers in Battle* gives fifteen breathing, living accounts of actual operations of German engineers in actual combat. Originally published as articles in *The Military Engineer*, these chapters are well worthy of the wider distribution this reprinting makes possible. As the Chief of Engineers well says of this volume in his foreword, "I commend it to anyone interested in the art of modern war—and particularly to anyone interested in the engineering aspects of that art." Artillerymen are most definitely interested in those aspects. All should be acquainted with Col. Thompson's book.

*AMERICA'S STRATEGY IN WORLD POLITICS.* By Nicholas John Spykman. Harcourt, Brace and Co., 1942. \$3.75.

*GEOPOLITICS: THE STRUGGLE FOR SPACE AND POWER.* By Robert Strausz-Hupé. G. P. Putnam's Sons, 1942. \$2.75.

Both Yale's Professor Spykman (of Netherlands birth, a citizen of ours since 1928) and Mr. Strausz-Hupé (originally Austrian) have just published books dealing with that popular term, "Geopolitics." Their similarity ends right there, however, as the treatments are utterly different. Both authors, though, consider the subject with good background for their respective approaches, and write most readably.

Professor Spykman in a calm, detached fashion examines this world of ours, its continents, countries, peoples, resources, climates, barriers, routes, and cultures. Part One considers the United States and the balance of power, with chapters on Power Politics and War, the United States in the Western Hemisphere, From Monroe Doctrine to Hemisphere Defense, America and the Transatlantic and Transpacific Zones, and finally the United States in the World. This may sound like a large order—it is, but done in fascinating manner by a man who roamed the earth as a journalist before settling down to

professorships he never allowed to become humdrum. He rightly views our world position as resembling that of England in Europe: to survive, we must maintain a balance of power between Europe and Asia. And though they might be surprised to learn it, our interventionist and isolationist groups actually were representatives of geopolitical schools of opposite camps.

Part Two, on the struggle for South America, contains equally valuable material, puts our neighboring continent in proper perspective, tears away veils of false illusions, plunks our feet right down on the ground again. Politics, propaganda and counter-propaganda and their effects, economics and resources, the military front—all are considered coldly and matter-of-factly.

And the conclusion, with its thoughts on hemisphere or quarter-sphere defense, the post-war world, and the United States and the peace settlement, draws together many threads into a skein which, though not dull gray, is hardly as rose-colored as wishful thinkers might like. Like the maps which are excellently drawn on the best projections to illustrate his thesis accurately, Spykman's summary says much in little space.

The second volume, however, might better be titled *Geopolitiks*, since it examines the Haushofer school of thought, its background, distortions, perversions, inaccuracies, and inconsistencies. It is interesting to note

## TWO NEW SERVICES FOR FIELD ARTILLERYMEN

### MAPS

speed an understanding of what's happening. These are Rand McNally's excellent "pocket maps":

The Mediterranean Area .....	50c
Southern Asia and the Near East .....	50c
Australia .....	75c
Oceania, Australia, and New Zealand .....	50c
War Map of the Pacific .....	50c
The Western Pacific .....	50c

### PHONOGRAPH RECORDS

of bugle calls and sound effects are \$2.00 each. Two records cover nearly all bugle calls. Different records give rifle shots; machine gun bursts and whistling shells; general battle effects of mixed sounds; naval, AA, and AT guns; air raid complete; AA weapons; cannons; and tank sounds.

*See discount offer on page 808 and order through*

**THE UNITED STATES FIELD ARTILLERY ASSOCIATION**

**1218 Connecticut Avenue**

**Washington, D. C.**

*Rand McNally's*

# WORLD ATLAS

**Universal Edition**

*at \$7.50 (see discount offer on page 808)*

is just about the best you can get. All main maps combine physical with political data; scores of smaller maps give economic resources, rainfall, and quantities of other invaluable data.



*Order through*

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

## CARBINE and LANCE

*The Story of Old Fort Sill*

**by Lt. Col. W. S. Nye, FA**

*(Former Editor of THE FIELD ARTILLERY JOURNAL)*

. . . tells the exciting story of Fort Sill from its days as an Indian-fighting outpost right down to the present. 368 pages of thrilling history. 47 pages of exceptional illustrations.

**Price: \$3.00**

*(See discount offer on page 808)*



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

that two of the unsung ancestors of this pseudo-science (pseudo as used as a Nazi tool) were a younger brother of the famous von Bülow, and one List who became our Leipzig consul 110 years ago after an American visit. Writings of the Haushofer group, however, seem too tortuous and full of untranslatable jargon for even a native Austrian to be able to render for us.

Mr. Strausz-Hupé, then, gives us a vignette of the German version of this science, without attempting to examine the world except incidentally in attacking the Haushofer doctrines. His book makes good reading, though, and is highly useful in showing the trend of German thought—what makes the thing tick, as it were.

For real reading, dip into Dr. Spykman's tome. It is fat and literally heavy, but not at all "heavy" reading. It will integrate many items for you, as it did for me.

*WASHINGTON, D. C.: A Guide to the Nation's Capital.*  
*Compiled by the Writers' Program of the WPA for the*  
*District of Columbia. Hastings House, 1942. 488 pp.*  
*\$3.50.*

This is actually a second edition, revised and condensed, of *Washington: City and Capital* issued five years ago by the Government Printing Office as the second in the famed American Guide Series. In many ways the new book is superior: its size and weight are much more "standard" than those of its 4½-pound progenitor; much new information has been included; and the material is arranged in more usable fashion. Sponsored by George Washington University, this book is invaluable for those expecting to come here, who want to refresh their memories, or who want to learn more of the capital city. 64 pages of magnificent photos beautifully reproduced help immensely. The whole story is here, from the general background treated from many angles, to guide-book descriptions of points of interest throughout the city and its environs. Every reader will get his money's worth.

*GREAT SOLDIERS OF THE TWO WORLD WARS. By H.*  
*A. DeWeerd. W. W. Norton and Co., Inc. 369 pp.*  
*\$3.50.*

The author of these sketches of twelve leading soldiers of the last two world wars treats warfare as an art and a science about which it is everyone's business to know something. Without this protective knowledge, he believes, it is easy for a group of self-centered professionals to hoodwink the people by withholding behind a barrier of super-technical mumbo-jumbo the facts on which the gravest decisions of life and death are made. The tales told in this book of incredible mistakes of



strategy and planning made by some of the leaders in the last war and their cost in human lives make this abundantly clear.

Seven soldiers of the last war and five from this are the subjects of the book. They are not necessarily the greatest (indeed, there are some notable omissions, such as Foch and Ludendorff, who have been adequately treated elsewhere) but they are the ones whose mistakes and triumphs of the last war have some relevance to this. The twelve are Schlieffen, Hindenburg, Hoffmann, Kitchener, Lawrence, Pershing, Petain, Gamelin, Wavell, Churchill, Seeckt, and Hitler. This catholic choice shows that De Weerd has a grasp of warfare that goes beyond the mere formalism of strategy. He is thoroughly aware of the influence of political, social and personal factors on the conduct of war.

The story of Schlieffen and his famous plan for envelopment at unprecedented speed is the first chapter in the book. It was the army he developed that carried out the modified version of his plan of attack, but lesser leaders bungled its execution and reduced the war to the exhaustive slaughter of the trenches, which it was his specific aim to avoid. The next two sketches are of Hindenburg, that dull, respectable front for the brilliant Ludendorff, and Hoffmann, who succeeded on the eastern front while his superiors bungled in the west. De Weerd's analysis of Kitchener reveals the paucity of British military talent in 1914; an old-school campaigner of frontier and desert was the best that could be found to mobilize a nation for more or less total war. The author then weighs the peculiar military, political and intellectual talents of Lawrence of Arabia. Pershing completes the list of strictly World War I figures, and DeWeerd makes a just appraisal of the difficulties he faced and the real contributions he made.

Petain's part in the last war is analyzed to show the reason for his popularity in France, and he stands forth as a conventional, somewhat dated soldier with a strong streak of inherent pessimism. Gamelin's inadequacy follows, and it is contrasted with the adaptability of Wavell, perhaps the outstanding British general of this war so far. Seeckt is revealed as the German soldier who trained the highly efficient Reichswehr of the twenties and thus paved the way for the revolutionary German army of 1939. Finally, De Weerd considers Hitler and Churchill, opposite numbers, statesmen-soldiers and great enemies. He considers Hitler largely responsible for the broad principles behind the Germans' all-out warfare.

The author views most of the fighting thus far in World War II as technically better than that of 1914-1918 because mobility has largely replaced attrition. In the realm of theoretical strategy, his due must be given a certain devilish ex-corporal.

L. B. C.

## ELECTRIFYING THE COUNTRY

The amazing book that 33 years ago foretold *and mapped* Japan's attack on the United States.

## THE VALOR OF IGNORANCE

By HOMER LEA

Introduction by Clare Booth

Events have proved that the little hunchback who wrote this book was one of the greatest military geniuses of modern times. First published in 1909, this book has been republished because the things it foretells are happening today!

Also by HOMER LEA

## THE DAY OF THE SAXON

This book gave early warning of the fate that has since overtaken the British Empire. First published in 1912, it is here reissued because of insistent demand on the part of editors and citizens. A military document of vital importance.

EACH BOOK \$2.50

(See discount offer on page 808)

Order Your Copy Direct From

THE U. S. FIELD ARTILLERY ASSN.  
1218 Connecticut Ave. Washington, D.C.

## FIELD ARTILLERY BOOK 161

### GUNNERY (the "Bible")

Price 60 cents

(see discount offer, page 808)

This book has been rewritten primarily for instructional purposes. FM 6-40, Firing, just revised, covers in somewhat condensed form the subject matter of FAB 161. The ONLY complete work on Gunnery is this complete, standard volume.

FAB 161 is for sale *only* to members of the military service or those who are entitled to receive documents ordinarily classified as *Restricted*.

Order through

U. S. FIELD ARTILLERY ASSOCIATION  
1218 Connecticut Ave., Washington, D. C.

## BATTERY DUTIES

### *A Practical List*

(new, revised edition)

For both old and new it clarifies the many administrative tasks that are "not in the book" but which through custom now have the force of regulations.

Complete with references to the Field Manuals which cover the technical duties.

Field Manual size and prepared from the Field Artillery point of view, *Battery Duties* covers all personnel having odd jobs, from the BC to the Dayroom Orderly.

**Price: 25c per copy**

(See discount offer on page 808)

*Write for quotations on larger orders*

**THE  
U. S. FIELD ARTILLERY ASSOCIATION  
1218 Connecticut Ave., Washington, D. C.**

*SEE HERE, PRIVATE HARGROVE.* By Marion Hargrove. Henry Holt and Company, 1942. \$2.00.

It is difficult to know what to say about this Hargrove and his book. It isn't at all like the tent show comedy you might expect, yet it's hilarious; it isn't at all like the instructional class period it might be, yet it teaches.

Private, now Corporal, Marion Hargrove is a real soldier (in the flesh). He is now a staff writer for *Yank*, the Army newspaper. The people whom he talks of are real, too. They came from your and my home towns and they're good soldiers.

Private Hargrove did his normal allotment of KP's, plus a good scattering of extras for unpolished shoes, unlaced leggins, and the like. At first he hated the Army with a real hatred; but, like those he tells about, could not now leave the service without an aching heart.

Hargrove writes pleasantly, tells some fair stories (some of them old to the Army), and has excellent insight into the thoughts of our millions of private soldiers. He talks about the service clubs, the barracks, mess halls, stables, foot drills, calisthenics, and particularly corporals and sergeants. His book manages to give exemplary instruction without recourse to dry detail; in that fact it is very worthy. Throughout there is a lighthearted vein that makes you want to meet Private Hargrove and others like him and wish them luck.

I'm sending copies to my recently-Armed friends.

A. V. R.

## GRAPHICAL FIRING TABLES

for the

### 105 and 155 Howitzer

are now available.

Made of wood, these tables *are complete for charges one through seven, and cost*

**\$2.50 apiece, net.**



*Order through*

**The  
U. S. FIELD ARTILLERY ASSOCIATION  
1218 Connecticut Ave., Washington, D. C.**

*SEA POWER IN THE PACIFIC, 1936-1941, A BIBLIOGRAPHY.* By Werner B. Ellinger and Herbert Rosinski. Princeton University Press, 1942. \$1.00.

This pamphlet serves as an index to all the available literature on sea power in the Pacific from 1936 (when the Japanese boldly revealed their imperialistic stripe by throwing over the naval limitation agreement of 1922) right down to Pearl Harbor. The authors have wisely placed the emphasis in their selection on factual information and naval strategy rather than on political controversy and economic problems. There is a clear enough lesson in treachery to be learned from this aspect of our relations with the Japanese.

L. B. C.

### ILLUSTRATION CREDITS

(References are to pages)

**Col. E. W. Pilburn: Cover, 746, 753.**  
**Alexander Clifford: 738, 750, 751.**  
**British Press Service: 740, 742, 743, 752, 754, 755.**  
**International: 757.**  
**Capt. R. B. Swatosh: 758, 759, 760.**  
**Acme: 767, 772.**  
**Collier's: 782.**  
**Lt. Les. Green: 788, 789, 790.**  
**Philippine Commonwealth: 796.**  
**U. S. Army Signal Corps: 799.**

# The Field Artillery Journal now offers the famous MODERN LIBRARY books

—only 95c and \$1.45 each—

## G1. WAR AND PEACE by Leo Tolstoy

The greatest novel ever written about war. "One of the great novels of the world."—*Clifton Fadiman*. \$1.45

- |      |   |        |
|------|---|--------|
| 19.  | A FAREWELL TO ARMS                              | 95c    |
|      | by Ernest Hemingway                             |        |
| G13. | THE FRENCH REVOLUTION                           | \$1.45 |
|      | by Thomas Carlyle                               |        |
| 16.  | THE WAR IN OUTLINE                              | 95c    |
|      | by Liddell Hart                                 |        |
| G20. | THE LIFE AND WRITINGS OF ABRAHAM LINCOLN        | \$1.45 |
| 32.  | PERSONAL HISTORY                                | 95c    |
|      | by Vincent Sheean                               |        |
| G22. | THE COMING STRUGGLE FOR POWER                   | \$1.45 |
|      | by John Strachey                                |        |
| 95.  | NAPOLEON  | 95c    |
|      | by Emil Ludwig                                  |        |
| G29. | THE CONQUEST OF MEXICO AND THE CONQUEST OF PERU | \$1.45 |
|      | by William H. Prescott                          |        |
| 130. | THE RED BADGE OF COURAGE                        | 95c    |
|      | by Stephen Crane                                |        |
| G35. | A HISTORY OF GREECE                             | \$1.45 |
|      | by J. B. Bury                                   |        |
| G58. | MAN'S HOPE                                      | \$1.45 |
|      | by Andre Malraux                                |        |
| 215. | TEN DAYS THAT SHOOK THE WORLD                   | 95c    |
|      | by John Reed                                    |        |
| G31. | THE FORTY DAYS OF MUSA DAGH                     | \$1.45 |
|      | by Franz Werfel                                 |        |
| 11.  | LUST FOR LIFE                                   | 95c    |
|      | Irving Stone                                    |        |
| 29.  | OF MICE AND MEN                                 | 95c    |
|      | by John Steinbeck                               |        |
| G21. | SIXTEEN FAMOUS AMERICAN PLAYS                   | \$1.45 |
| 39.  | THE AUTOBIOGRAPHY OF BENJAMIN FRANKLIN          | 95c    |
| 42.  | ARROWSMITH                                      | 95c    |
|      | by Sinclair Lewis                               |        |
| G30. | HISTORY OF THE GREAT AMERICAN FORTUNES          | \$1.45 |
|      | by Gustavus Myers                               |        |
| 45.  | THE MALTESE FALCON                              | 95c    |
|      | by Dashiell Hammett                             |        |
| 81.  | ORACLES OF NOSTRADAMUS                          | 95c    |
| G59. | THE SHORT STORIES OF ERNEST HEMINGWAY           | \$1.45 |
| 99.  | THE SEA AND THE JUNGLE                          | 95c    |
|      | by H. M. Tomlinson                              |        |

**T**HIS is your opportunity to get—at a very low price—books that give lasting satisfaction: the great novels, biographies, works of history and economics that have influenced men's thinking. Look through this partial list and see how many of them you have always "meant to read." THE TEXT OF EVERY ONE IS COMPLETE—not an abridgment or condensation.

The convenient size—the sturdy, handsome cloth bindings—the clear printing and good quality paper make them ideal for both camp library and musette bag. The 95c books measure about 5 × 7 inches and weigh up to twelve ounces; the GIANTS at \$1.45, are slightly larger but frequently contain a thousand or more pages without taking up more room than an ordinary novel. Use the handy coupon below for ordering.

- |      |  |     |      |                              |                 |        |
|------|--|-----|------|------------------------------|-----------------|--------|
| 102. | THE AFRICAN QUEEN                        | 95c | G57. | THE FLOWERING OF NEW ENGLAND | Van Wyck Brooks | \$1.45 |
|      | by C. S. Forester                        |     | 186. | LORD JIM                     | Joseph Conrad   | 95c    |
| 111. | LONG VOYAGE HOME: SEVEN PLAYS OF THE SEA | 95c | 187. | THE COUNTERFEITERS           |                 |        |
|      | by Eugene O'Neill                        |     |      | by Andre Gide                |                 | 95c    |
| 113. | STUDIES IN MURDER                        | 95c | 193. | DROLL STORIES                | by Balzac       | 95c    |
|      | by Edmund Pearson                        |     | 195. | CASUALS OF THE SEA           |                 |        |
| 115. | IN DUBIOUS BATTLE                        | 95c |      | by William McFee             |                 | 95c    |
|      | by John Steinbeck                        |     | 196. | THE TRAVELS OF MARCO POLO    |                 | 95c    |
| 119. | MOBY DICK                                | 95c | 218. | A PASSAGE TO INDIA           |                 |        |
|      | by Herman Melville                       |     |      | by E. M. Forster             |                 | 95c    |
| 144. | FOURTEEN GREAT DETECTIVE STORIES         | 95c | 221. | NATIVE SON                   | Richard Wright  | 95c    |
|      | by John Steinbeck                        |     | 178. | FORTITUDE                    | Hugh Walpole    | 95c    |
| 148. | THE GRAPES OF WRATH                      | 95c | 112. | A HIGH WIND IN JAMAICA       |                 |        |
| 162. | BABBITT                                  | 95c |      | by Richard Hughes            |                 | 95c    |
|      | by Sinclair Lewis                        |     |      |                              |                 |        |
| 176. | OF HUMAN BONDAGE                         | 95c |      |                              |                 |        |
|      | by W. Somerset Maugham                   |     |      |                              |                 |        |

See discount offer on page 808

The Field Artillery Association pays the postage on all orders.

U. S. Field Artillery Association  
1218 Connecticut Avenue  
Washington, D. C.

Please send me the titles I have circled below.

- |      |      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 11.  | 16.  | 19.  | 29.  | 32.  | 39.  | 42.  | 45.  | 81.  | 95.  | 99.  | 102. |
| 111. | 112. | 113. | 115. | 119. | 130. | 144. | 148. | 162. | 176. | 178. | 186. |
| 187. | 193. | 195. | 196. | 215. | 218. | 221. |      |      |      |      |      |
| G1.  | G13. | G20. | G21. | G22. | G29. | G30. | G31. | G35. | G57. | G58. | G59. |

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY & STATE \_\_\_\_\_

- Send C.O.D.  Remittance enclosed.  
 Send me the complete Modern Library list.