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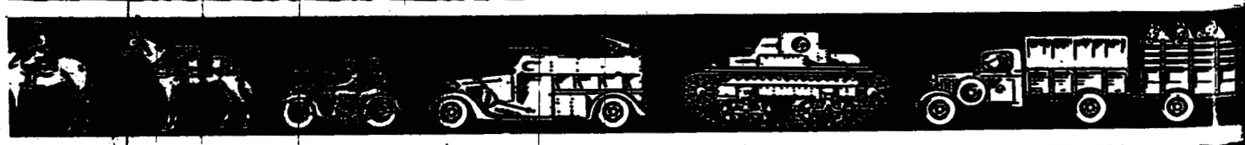

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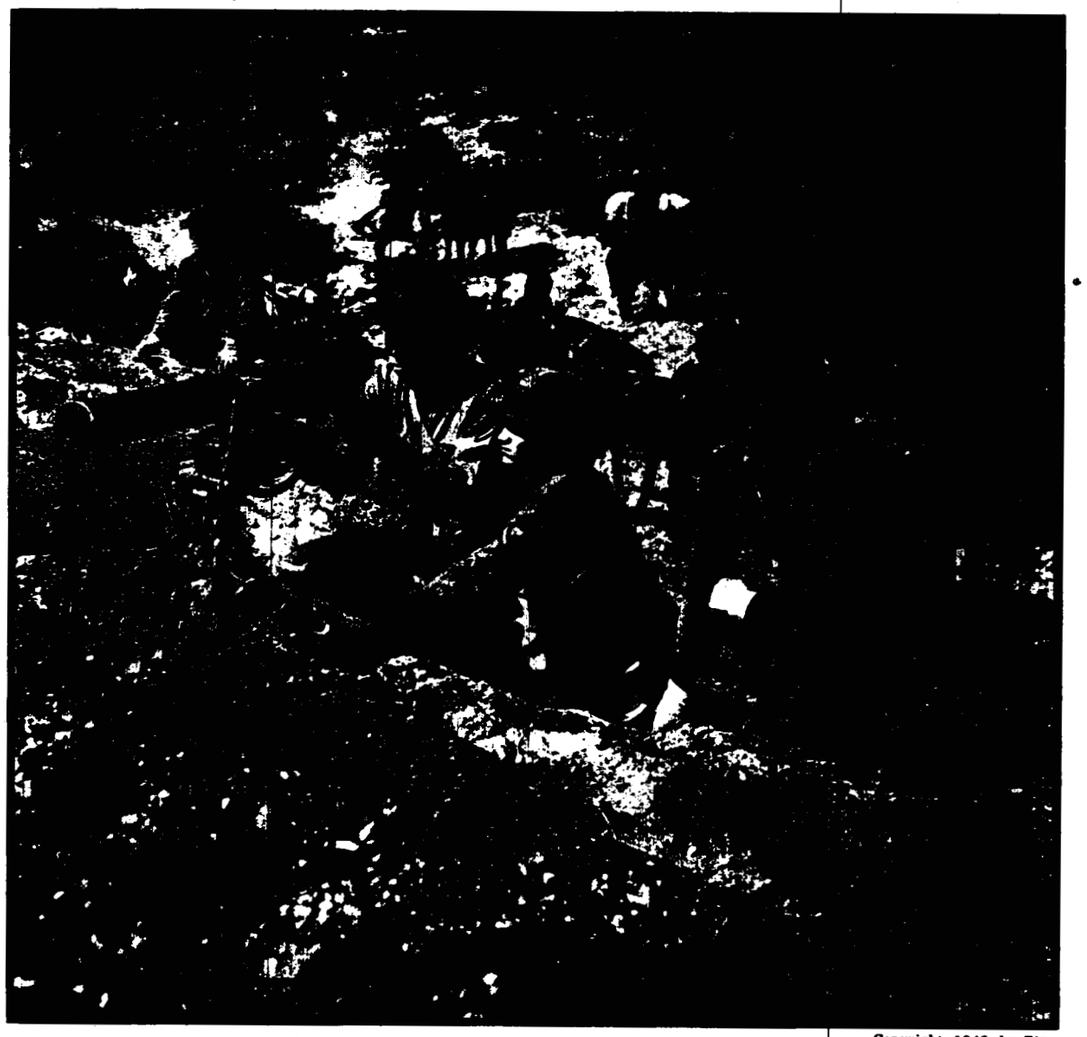

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(See Colonel Graham's article, "The Lost Is Found," on page 61 of this issue)

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Soviet Cavalry Fights!

By General O. I. Gorodovikov

EDITOR'S NOTE: *This article was wirelessed from Moscow on June 19, 1942, (ICN) for the exclusive use of* The CAVALRY JOURNAL. *General Gorodovikov served in the First World War as a cavalry officer in the Russian Army and subsequently participated with General Budyenny in the formation of the First Cavalry Army following the October Revolution. Since then he has played a prominent part in the organization of Soviet Cavalry Forces. General Gorodovikov has been awarded a number of government decorations for valor, both during the Civil War and more recently for his services in the formation of reserve Red Army units.*

Cossacks breaking into a village held by the German-Fascist invaders

THE Soviet Union's strategic cavalry played, and continues to play an important part in the war against Hitler Germany. One year of war has served to refute the prevalent underestimation of cavalry.

Within the last 20 years, in practically every country, the theory was established that in modern mechanized warfare, cavalry can be of no operational importance. Certain military experts went as far as to assert that cavalry had become obsolete and that its day was gone, never to return. This conception of the obsoleteness of cavalry dates back to the first World War of 1914-18. Indeed, that war disillusioned many a commander with regard to cavalry potentialities. Let us analyze in brief the roots of this disillusionment.

First of all in nearly every army, cavalry entered the *last war* practically as the most backward arm of the service and was poorly armed. Cavalry training in peacetime was based on the desire to achieve perfect squadron, regimental and divisional formation for closed rank attacks. Shooting practice was hardly cultivated and fighting on foot was considered unnecessary as a part of a cavalryman's training. Moreover, the tactical training of the commanding personnel and staff officers in cavalry units was manifestly inadequate. In short, the entire scheme of training cavalry still rested on the traditions of the nineteenth century. Little wonder then, that in the very first phase of the war, cavalry came up against enormous difficulties.

Horse attacks encountered deadly fire from rifle units and artillery. When they did achieve success, it

Cossacks occupied the town of Yukhnov on March 6th. The bridge across the Ugra River was blown up by the Hitlerites during their retreat

was only at the cost of terrific losses in men and horses. The high commands of all armies and the Russian Army in particular were guilty of numerous errors in the operational utilization of the cavalry units. The cavalry was not used in large masses but was evenly distributed division by division along the entire front. Obviously with such scattered forces and inadequate equipment, the cavalry could not produce any significant effect. By 1915 when the armies passed over to positional warfare, the cavalry units found themselves without jobs. Part of the horse units were converted into foot soldiers and dispatched to the trenches and, significantly, Germany was the first to resort to this measure. The remaining cavalry was formed into a horse corps and provided with more infantry and artillery weapons and supported by armored vehicles (this was done by the Allies and partly by Tsarist Russia) to be utilized as a mobile reserve of the High Command.

In the summer and autumn of 1918, cavalry operations were eclipsed by the wide use of aviation and tanks and consequently attracted but little attention. Yet the British and French cavalry corps played a significant rôle in liquidating the March and April German breakthroughs. At that time Allied cavalry units rushed to the scene of German penetration in Flanders and Champiegne, stood up to the German blow and held the front until fresh reserves could be pulled up.

These examples of *correct operational usage of cavalry* were few and far between and were lost in the overwhelming reverses suffered by horse units.

It was these reverses that led the commanders of the most belligerent armies to take a negative view of cavalry as an independent arm and to favor the gradual replacement of cavalry by mechanized units.

This evolution of cavalry in western Europe was completed in several stages over twenty years from 1919 to 1931. During that period a large part of the cavalry divisions and brigades in Britain, France, Germany as well as some cavalry units in the U.S.A., were reorganized into tank units.

The Red Army cavalry was developed and trained in a different atmosphere. Following the First World War, Soviet Russia went through a difficult stage of three years of civil war, in the course of which its armed forces were organized, steeled and the basic principles of Soviet tactics crystallized. Cavalry's greatest asset, mobility, was displayed to the full in the civil war which was fought over vast stretches, along broken fronts and with less technical equipment than at the European fronts. Stalin, who in those days stood at the head of the Soviet Union's armed forces in South Russia, carried out a concentration of strategic cavalry, unique in the post-Nalpoleon period.

On his initiative, the first and subsequently second mounted armies were organized. At the same time, due account was taken of the experience of the First World War in respect to technical equipment of the horse units. Soviet cavalry formations, *due to their high maneuverability and extensive fire and striking power*, were able to carry out a series of brilliant operations in the Civil War. This success predetermined the further developments of Soviet cavalry.

Industrialization of the Soviet Union enabled the Red Army Command to equip the cavalry units with all up-to-date weapons. Their tactics were adapted to the latest developments in warfare. The initial stage of the war against Hitler Germany found the cavalry, as well as the Red Army in general, laboring under unfavorable conditions. The German High Command had already mobilized, concentrated, and deployed three-quarters of all Germany's armed forces and the overwhelming part of her air force at the Soviet frontier, and was able, therefore, to inflict a sudden blow on the USSR's western districts and thus acquire advantages

that followed naturally from the suddenness of the attack.

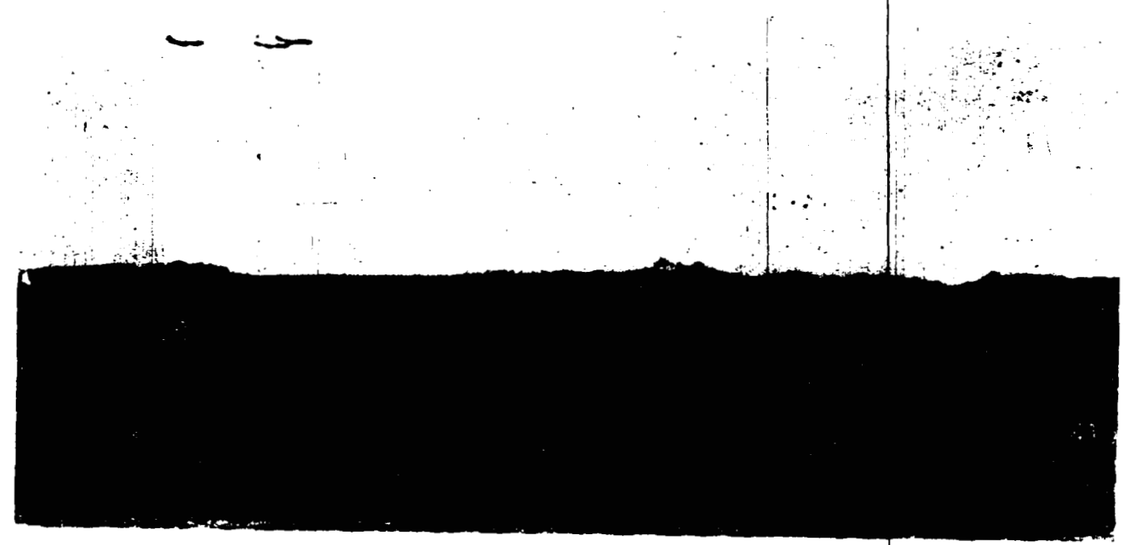
In these early days of the war the Hitlerites had great superiority, particularly in tanks and aircraft. The Red Army's strategic cavalry took the defensive, but in the fulfillment of its defensive tasks, it resorted to active operations and not without considerable tactical success. The cavalry was entrusted with the defense of important objectives, with covering the withdrawal of our troops, dealing counter blows against the penetrating enemy troops, and raiding the enemy rear.

A few examples will suffice to illustrate the nature of its activity. Cavalry units under General Kryuchenken in the period between June 24th and 30th (1941), were engaged in defending a particularly important line along the Ikna River in the vicinity of Krementets against the First German Panzer Army under General Von Kleist. General Kryuchenken covered the bridgeheads with part of his forces and artillery and, having massed large formations of cavalry and tanks by a rapid maneuver, inflicted a series of blows on the 16th German Panzer Division, as a result of which the enemy lost over 2,500 killed and over forty tanks. By this maneuver, Soviet cavalry held up the advance of part of the German army for quite some time, thereby enabling the Soviet infantry units to withdraw from the battle.

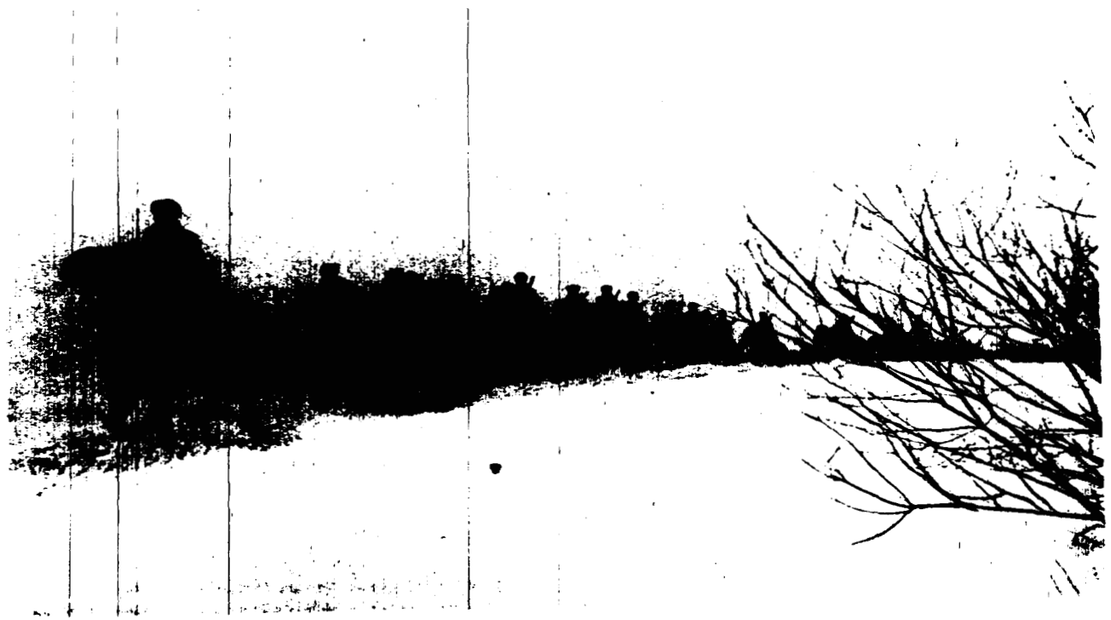
In early August, 1941, German panzer units forming part of General Guderian's army, broke through to Krichev, Chausi and subsequently attempted to advance towards Roslavl. Their intention was to capture a long point and to cut off the Soviet troops operating north of it. Soviet cavalry, under Colonel Kuliev, concentrated southwest of Roslavl, were ordered to attack the enemy flank, immobilize his forces and thus enable our troops to withdraw in order. On August second, after a rapid nocturnal march, Kuliev's cavalry units reached the vicinity of Shumyachi. The engagement began with heavy fire centered on the enemy tanks and motorized units, followed by a vigorous attack. With the grave menace to his flank, Guderian was compelled to withdraw his main forces southward to offset our cavalry which by a series of clever maneuvers continued to draw the enemy away from the main objective and thus make possible the withdrawal of Soviet troops to the east.

By September 29, 1941, mobile formations of the German 9th Tank and 25th Motorized Divisions had captured the town of Romny and threatened to encircle the Soviet troops withdrawing to the east. Cavalry, under General Belov, reinforced by a tank unit and operating in conjunction with a motorized infantry division, inflicted a serious defeat on the Germans and pressed them back to the southwest. This obviated the danger of encirclement and enabled the Soviet troops to pass to safety. In these engagements, Belov's cavalry accounted for over 1,500 German men and officers, captured over 500 motor trucks, 250 motorcycles and tremendous quantities of other war supplies.

On another occasion, German army units reached the River Mezha where they took up defensive positions to regroup and deploy for further advance. Soviet cavalry under Colonel Dovater, received orders to raid the enemy rear in order to frustrate their preparations for advance. On August 13th, Dovator's troops concentrated in the vicinity of Pozhano, Fomino and Budnits. Concealed in the dense forests from the German air force, Dovator's advance units carefully reconnoitered the ground. Colonel Dovator detected a break through



Cossacks attack Nazi defenses on the Kalinin Front supported by tanks and airplanes



Soviet Cavalry turning the flank of an enemy's center.

the German defenses at Ustye and Podkyazye where two battalions of the 450th German Infantry Regiment, reinforced by artillery, had taken up defense positions.

At dawn on August 23d, a Cossack unit with an advance detachment on foot and the main body mounted, attacked the enemy defense, crushed the German battalions and broke through to the rear. The Cossacks smashed up the German headquarters, supply depots, transport trains, broke communication lines and wrought panic behind the German lines where rumors of "a hundred thousand Russian Cossacks" breaking through were rapidly spread. The Germans hurled large infantry units and tanks against the advancing cavalry, but this did not hinder the latter from completing its assignment, breaking through the German lines and returning safely. The raid was entirely successful and compelled the enemy for a long time to abandon offensive plans and, in places, even to retreat.

In December the Red Army passed over from the defense to the offensive and this marked the beginning of the second stage of the war. The activities of Soviet cavalry were greatly extended, for now it was called upon to break up the enemy's striking forces, harass communications and pursue the retreating German army.

Following are typical examples of Soviet cavalry operations in this period. General Belov's cavalry corps, renamed the First Guard Cavalry Corps, played an important and distinguished part in the counterblow dealt by the Soviet troops at the Central Front against General Guderian's Second Panzer Army which had broken through northeast of Tula. Guderian's army was heading for Serpukhov and Kashira, but came up against stiff resistance of Belov's cavalry. Operating in conjunction with other branches of the service, Belov's mounted guardsmen stemmed the advance of Guderian's units. While Soviet infantry held the Germans at the front, the cavalry outflanked the enemy and attacked the motorized units, thereby compelling Guderian's army to sound a general retreat.

On December 6th, Belov's troops continued to develop this operation along the Kashira-Yelets railway and three days later on December 9th, Belov attacked the enemy at the town of Venev, which he captured after a hard-fought engagement. The Germans lost over 2,000 killed here.

The following day Belov was hot on the heels of the retreating Germans and captured Stalinogorsk. After clearing the town of enemy resistance pockets and capturing over 2,000 motor trucks, fifty tanks, forty-two artillery pieces, over 100 motorcycles and huge quantities of other war materials, Belov continued to press southwards.

December 7th found Belov's horsemen cutting across the Tula-Orel highway and decisively hurling back the remnants of the German 17th Tank, 29th and 70th Motorized and 167th Infantry Divisions which constituted Guderian's wedge, northeast of Tula and which the German command intended to use in crushing the southern flank of the Moscow defenses.

Here is a description of other typical operations. At the beginning of December, the German command captured the town of Yelets and concentrated strong forces there with the intention of capturing the Moscow-Rostov railway, subsequently occupying the district of Gryazi, Voronezh, and thus cutting off the western from the southwestern front. The commander of the Soviet southwestern front planned a counterattack against this German force and a decisive part in this attack was assigned to strategic cavalry. The Third Cavalry Guard Corps under General Kryuchenken, operating south of Yelets and a cavalry corps under Colonel Kuliev, operating from the village of Telegino, were instructed to break up the enemy rear and communications and, in conjunction with infantry and tanks, advancing from the front, encircle and destroy the enemy. Advancing northwards along the rivers Kshen and Olym, Kryuchenken's cavalry on December 6th encountered and crushed the 95th German Infantry Division. Pursuing its remnants, Kryuchenken occupied the village of Rososhnoye and uniting with cavalry under Kuliev closed the circle around the German troops.

As a result of the *flank blows by the cavalry* and the frontal attack by the 95th and 134th Soviet Infantry Divisions, the enemy force was crushed. The Germans lost over 12,000 killed and wounded, 226 artillery guns, 319 machine guns, 907 trucks, 1,260 horses and large stocks of supplies.

On December 6th Soviet troops, having crushed the German advance on Moscow and frustrated their attempts to capture the Soviet capital, launched the counteroffensive. The Second Guard Cavalry Corps under General Dovator was instructed to advance through a gap in the enemy front and penetrate into the vicinity of villages Nikolskoye and Pokrovskoye, in order to cut off the German retreat. General Dovator directed his main mounted and tank forces along a direction parallel to that of the German retreat denying the Germans a road to the west. Dovator's units made quick time along the forest roads, always keeping well ahead of the enemy, and by December 15th reached the villages of Petrovo and Zhitonino, thus cutting off all enemy roads of retreat.

On December 16th a German infantry division, stretched out in a long column along a forest road, was attacked by Dovator's horsemen and tanks simultaneously at the head, tail and flanks. German resistance was furious but the division was wiped out to a man.

What has brought the Soviet cavalry success in this war of motors, which, if we were to believe military experts, provided no scope for cavalry? Space permits enumeration of only the basic factors making for the *cavalry's success*. First and foremost, mention should be made of the *correct utilization* by the Soviet Command of *large scale strategic cavalry formations* with due regard for the *specific features peculiar to cavalry* as distinct from other arms. Cavalry was employed at such directions and given such tasks as enabled large scale maneuvering and free scope against the enemy flank and rear communications when developing the advance or pursuing a retreating army. Soviet cavalry units are well equipped with modern weapons. In addition, larger cavalry units are provided with *ample tank and air support* and where necessity arises are supported by infantry as well. Infantry stiffens the cavalry's fire and striking power and at the same time serves as an axis around which the cavalry can perform its maneuvers and inflict its blows at the adversary's vulnerable spots.

To this should be added the exceptional bravery and steadfastness of the Soviet cavalrymen, their spirit of self sacrifice in fighting the hated enemy. Soviet soldiers fully appreciate the noble aims of the war fought for liberation and in alliance with freedom-loving peoples of the world against the Hitler invaders and enslavers. The war against Hitler Germany which the Soviet Union is waging in close unity with the great peoples of Britain, the USA and China is now entering the decisive phase. The Nazi monster which has plunged the world into war must be crushed by united effort. The growing forces and fighting collaboration of Great Britain, the USA and the Soviet Union are tokens of victory.

Larry Lesueur (from Moscow)

"I just returned from riding to maneuvers with the 'Glamour Boys' of the Red Army, The Cossack Cavalry. I can understand now why the Red Army has expanded its Cavalry force since the war began. Heavily armed with antitank guns, antitank rifles, field artillery, the Cossacks can pass anywhere to make devastating attacks on the rear of the enemy, especially at night. I was told by Major General Obeckoff that the work of the American Cavalry in the Civil War was the model for 1942 Cossack operations. The Russian Cossacks are now feeling American aid too. I watched orders for the traditional hair-raising Cossack charge being given over a field telephone supplied by the Connecticut Telephone Corporation."—*Columbia Broadcasting System, New York, 8:00-8:15 AM (EWT) Broadcast Tuesday, June 30, 1942.*

Antitank Defenses of a Soviet Rifle Division*

*By Lieutenant Colonel I. Vorobyev***

SOVIET infantry divisions have modern antitank equipment—antitank guns and rifles, special hand grenades and armor-piercing bullets—used in combination with artillery and aviation which enable it to repel formidable Nazi panzer attacks and the strongest counterattacks.

This was clearly brought out in particular during the May fighting at the Kharkov and Izymm-Barvenkovo sectors of the front. Incidentally, the Germans here adopted somewhat modified forms of utilizing tanks. This time their tanks worked in close coöperation with the infantry. Undoubtedly this modification reflects the strengthening of the Red Army's antitank defense and testifies to the steadfastness of Soviet infantry.

The technical equipment at the disposal of the Red Army allows for considerable development of the existing antitank defense and indeed at present the antitank defense represents a combination of antitank artillery and rifle fire, natural and artificial barriers and fire from all artillery and infantry. This combined system is based on the interaction of all antitank weapons echeloned in depth and massed at vulnerable points. The determination of these vulnerable points is the basic factor in planning any system of antitank defense, for the bulk of the antitank weapons are centered at or around these points. The commander of the division must decide where and how he intends to destroy penetrating enemy tanks, what measures will be taken to strengthen regimental defenses, what reserves he will maintain and what orders he will issue to artillery and engineers.

One form of combating tanks in the depth of defense positions is the organization of antitank pockets at vulnerable directions. These pockets are built by organizing antitank areas and resistance posts in such a way that enemy tanks breaking in between them will be held up at the barriers and subjected to fire from the flanks and front. Antitank areas are sections of the defense zone equipped with antitank barriers and defended against attack from all directions. Such areas are usually built on sites with ravines, woods, streams, bogs, lakes, steep slopes or inhabited points. Sites without natural barriers are covered with minefields, ditches, cleats and pits. One area known as the chief area is equipped by the division commander. It serves for concentration of the main striking force, has its artillery position and observation post for the division commander.

Other antitank areas are organized by division or regimental commanders. The number of these areas is determined in accordance with the number of vulnerable points and plan of the division commander. These areas serve as a cover for the assault troops of infantry regiments and as gun positions for artillery and observation posts. The spaces between basic and auxiliary antitank areas are filled in by antitank obstacles, making use of every possible natural hindrance. Increasing of such natural obstacles by flooding the area to form a bog, or cutting steeper inclines greatly enhances the effectiveness of the area. Antitank obstacles must be so placed as to lead the enemy tanks under antitank artillery fire. The division commander maintains at his disposal a mobile antitank reserve. In accordance with changing circumstances, this reserve is utilized either behind the antitank defenses or is advanced to attack, penetrating the tanks from the rear and preventing their escape from the antitank pocket.

Needless to say, the reserve must be prepared for lightning maneuvers, for building new antitank defenses and destroying the enemy tanks appearing before them. These tasks predetermine the makeup of the reserves which as a rule consists of antitank artillery, antitank rifles, sappers for mine-laying and portable obstacles carried by trucks.

An infantry regiment may receive antitank reinforcements from the division commander. The regimental commander decides on the plan of destroying the enemy tanks penetrating his sector, strengthens his antitank defenses of the battalion and maintains a mobile reserve. The regimental commander organizes antitank resistance posts working in conjunction with auxiliary antitank areas. The spaces between auxiliary area and posts are intersected with antitank defenses, by building an antitank pocket or choosing some other form such, for example, as a series of obstacles supplementing some natural obstacles in the area. The battalion commanders, using their own and additional antitank weapons, organize a barrage at the front and in the depth of their defense sectors and build antitank defense posts, ambushes, tank traps, etc.

Antitank defense sectors are equipped with regimental and battalion guns, antitank rifles, and are manned by groups of tank destroyers armed with grenades and inflammatory bottles. Artillery is so arranged as to concentrate their fire at the most vulnerable spot and maintain fire. The distance between the antitank guns and rifles should be no less than 50 meters in order that an explosion of shell or mine will not silence several guns simultaneously. Antitank defense posts

*Wirelessed for THE CAVALRY JOURNAL through ICN, from Moscow, June 22, 1942.

**Red Army.

Red Army men firing the antitank rifle which has been so successful in destroying hundreds of Nazi tanks.

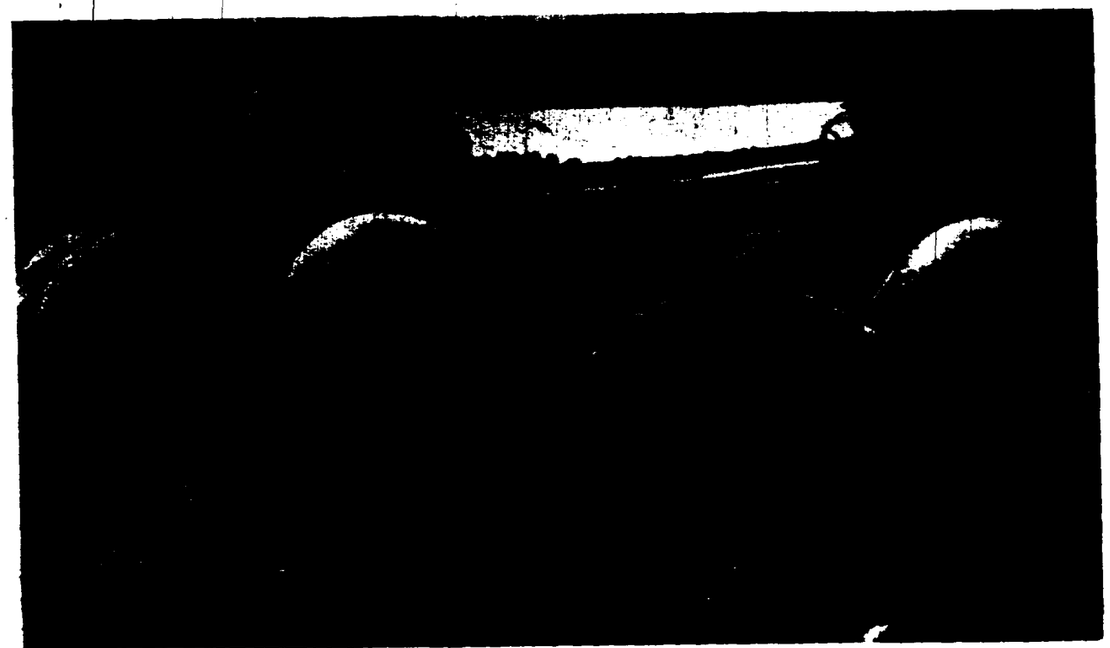
In defense operations, tanks carrying antitank gun crews are held in mobile antitank reserve.

must have a clear range and observation in all directions.

In addition to basic positions, reserve and camouflage positions are prepared. All trenches are of full height and in addition shelters and dugouts are provided for the men and equipment. Antitank weapons at the antitank defense posts must supplement each other. Fire is opened only when the enemy tanks reach the obstacle zone and are forced to decrease their speed. Fire is opened by the regiment and battalion artillery guns while the antitank rifles serve to cover their positions. As the tanks advance, the rifles come into action and they in turn are covered by tank destroyers. Directions exposed to tank attacks are reinforced with several layers of fire. Where there is danger of penetration, only single machines, or for purposes of flank fire, one squad of antitank rifles is sufficient, reinforced by two or three sappers with antitank mines and one or two submachine gunners.

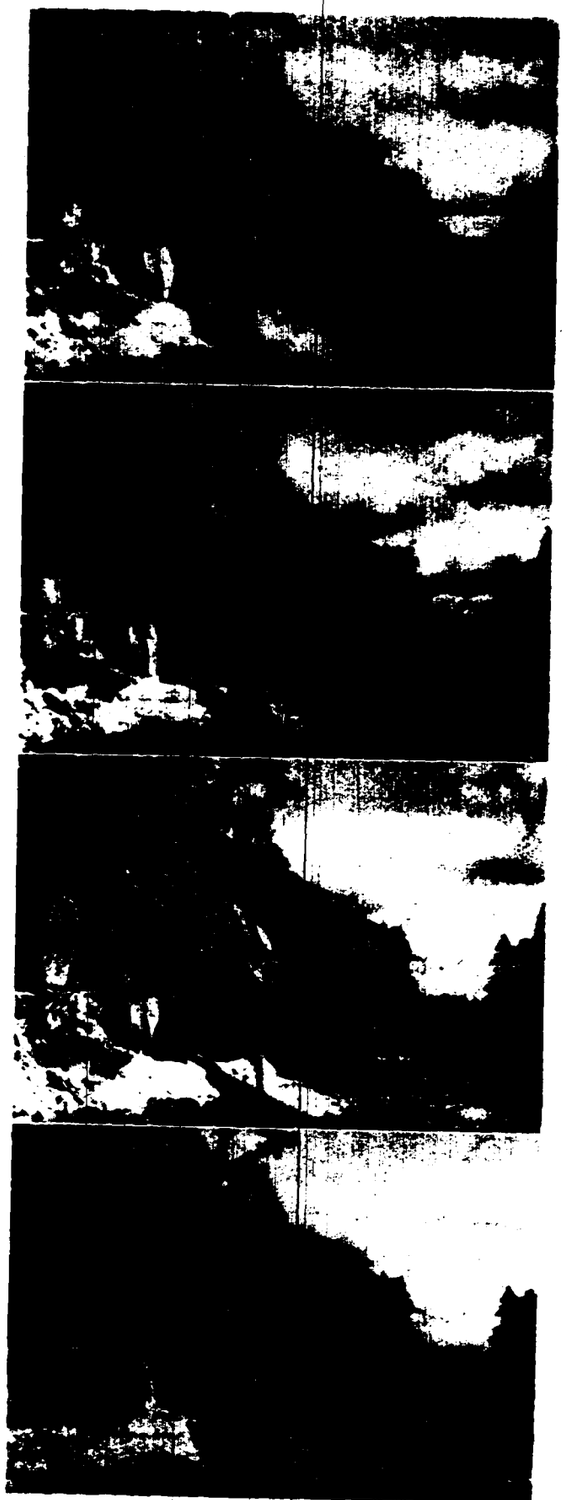
Artillery uses mobile barrage fire against tanks moving into attack. The air force works in close interaction with the artillery. In defense operations, the tanks are usually stationed in zones of second echelons. They must be prepared for a joint action with mobile antitank reserve. Infantry fire covers the obstacles and the positions of antitank artillery. Infantry also concentrates a shower of armor-piercing bullets against vulnerable spots on the tank, turrets, etc.

The Germans sometimes resort to sham tank attacks in order to detect the system of antitank defenses. They collect motorcycles and several old tanks and with much noise and bustle stage an attack. An important thing for the defenders is not to reveal the location of their antitank weapons because after such sham attacks the Germans usually open heavy artillery fire and concentrate their aircraft on all areas where artillery is discovered. Cases are known of several such sham attacks being staged before the real attack was made. Therefore, only specially designated guns open fire during such sham attacks. The barrage of antitank artillery and rifles must be sudden and is opened when the enemy tanks are within short distances. Enemy infantry must be off from the tanks thus making interaction impossible. The division commander concentrates an artillery barrage on the main enemy force in order to separate the infantry from the tanks. Enemy tanks penetrating the front line must be stopped at the obstacles and destroyed by fire or antitank weapons. At this stage of the battle, the Germans sometimes withdraw their tanks and open up artillery fire and concentrate their air force on points which offer the greatest antitank resistance. In such cases antitank weapons must be shifted to a reserve position and even change the position of the defense posts. As the enemy tanks approach, the regimental commanders put their plans into operation. If they fail to stop the tank attack with their own means, the division commander orders additional means to destroy the penetrating tanks.



Antitank rifle crew of the Red Army lying in ambush.

Red Tanks Overcome Real Obstacles



ENGINEERS of the Red Army were given a problem as follows:

In order to relieve a town about to be invaded by the Nazis we must make a flank attack. There are no roads. On one side there is an impassable swamp. On the other there is a river with a steep bank—a bank of a 90° angle.

The engineers proposed cutting a road, but the Red Army commander said "No blasting." They suggested doing the work by hand; but this would take twelve hours, and they were allowed only six.

So the problem was finally solved by lowering the tanks one by one over the bank, after a corps of engineers had been dropped at the spot by parachute and prepared for the job.

The tanks were joined to each other by two cables at each end. As a tank started down the bank, the two front cables were kept taut by the measured advance of the tank in front. What kept the cables taut at the top of the bank was not revealed.

When the tanks reached the bottom of the bank they drove swiftly out into the stream and across to the opposite low bank, thus facilitating the descent of the tank behind. One after the other a corps of tanks was brought across the river in this way and sent into action against the "enemy."

The surprised "enemy" commander said: "How under the sun could you get here—across a swamp, which is impassable; or over a cliff which is just as impassable to tanks! Did your tanks fly?"

"When necessary, our tanks can fly," said the commander of the victorious forces.

Since last June 22nd the Nazis have had many occasions to wonder whether Soviet tanks had really learned to fly—when they suddenly appeared in places "where they could not possibly be."

EDITOR'S NOTE: *A careful study of the pictures sent us by Sovfoto fails to disclose the method by which the last tank was lowered from the top of the bank. However, inasmuch as a large number of tanks were used in the operation, it is possible that one or two remained at the top and did not take part in the attack.*

The method of overcoming such formidable obstacles presents an interesting and practical problem for the Engineers in our own Armored Force.

Organization of German Defense

*By Major C. Lopatin**

THE German defense depends upon a system of fire, combined with land fortifications and obstacles, using all advantages afforded by the terrain. Their defensive positions usually extend along streams and rivers with steep banks. They also make extensive use of hills and valleys, or ravines.

The plan of a German defense used on one of the parts of the front is shown on the attached sketch.

The Germans used all the advantages presented by the village with the church. From this village, situated on a rather high elevation, the river and its bed was well covered by fire to the north as well as to the east. The church, being in front of all the other buildings and of good height, served as an excellent observation point as well as an excellent firing point. Here were placed machine guns and anti-tank guns. The northeastern part of the village contained 3 or 4 firing positions (machine guns and mortars) and 1 or 2 trenches. The road was completely covered by fire from weapons placed in the stone buildings. The village thus provided a strong resistance. It is therefore evident that the Germans, relying on fire power, did not construct obstacles here; the approaches being covered by entrenched machine guns and detachments.

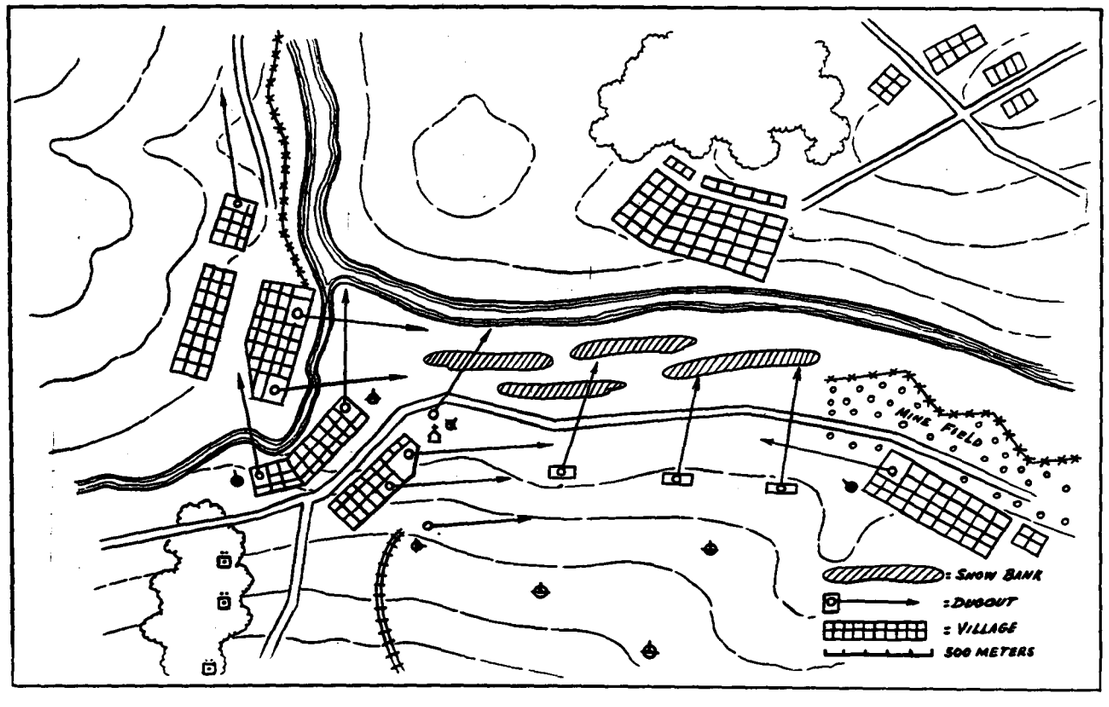
To the northwest this village joined a second village; and still further to the northwest was Hill No. 190. From the second village the left bank of the river was covered by flanking fire. The combination of fires from both villages, as well as from the buildings on the right, gave excellent cross fires in front of the position. The firing units in position in the second village and on Hill No. 190 were considerably smaller than those in the village with the church. Therefore, the approaches to the former were blocked by a double-staked wire fence; so that the village and the eastern slopes of Hill No. 190 formed an auxiliary position of the defense.

The buildings on the right flank were located on an open place and easily visible from the opposite bank of the river. Here the fire power was very low, but that which was there gave flanking fire along the left bank of the river and cover for the obstacles in front of the position which were especially strong. The defense here was based on the obstacles. The wire obstacles consisted of a 3 to 4 stake fence and a mine field containing high exposives.

In the system of fire it is characteristically the case that the blindages (rest dugouts) and dzoti (dugouts or firing points) in the forward positions are covered successively by those in the rear. Therefore, in seizing a dzot in the forward positions our troops are immediately subjected to fire from the dzots located in the rear.

On our sector the Germans have organized this complex system of fire in depth. Especially effective within the system of fire is the proper use of terrain and small villages.

*Red Army.



Red Army men dislodging Germans from a Ukrainian village.

Red Army men dislodging Germans from a village on the Western Front.

Red Army men attacking a village on the Western Front.

The defensive structures are always carefully camouflaged, being blended with the surroundings, both from aerial and ground observation. The camouflage of real gun positions is aided by the construction of false ones out of snow; and from the general vicinity of these the Germans fire periodically. The Germans also use small hillocks as firing positions.

The Germans attach great importance to the use of small villages in their defense. This is quite clear why, for in a village are rows of buildings which can be used in defense with considerable effect and with the minimum loss of time and means.

When our troops break through the defensive position, destroy the forward line and penetrate further. The Germans make new defensive works in a short time; principally dzoti of light construction. Herein lies the flexibility of the German defense.

A dzot (dugout or firing point) is usually simply a hole in the ground, 4 x 6 meters by 1.5 or 2 meters deep. It has a cover of 2 to 3 layers of beams which are 15 to 20 centimeters in thickness. On top of the beams is placed a layer of dirt .5 to .7 meters thick over which is poured water. A layer of frozen earth will withstand shells up to 155mm.

The location of trenches and dugouts is determined by the relief of the terrain. Sometimes they are arranged in checkerboard fashion. Between blindages are constructed a large number of dzoti, including false ones. In the dzoti are relays of automatic riflemen and machine gun men, usually 15 to 30 per cent of the detachment; the remainder are in the blindage.

The construction details of the dzoti and blindages were obtained from prisoners captured in this sector of the front at the end of February. Each section has 1 or 2 blindages where the men rest and 1 or 2 dzoti connected with tunnels or trenches cut into the snow. A blindage is a hole in the ground 2 meters deep and 6 x 4 meters in cross section and lined with boards. It has a timber roof which is covered by .5 meters of earth soaked with water. A dzot has a covering of 2 layers of beams for a roof and are usually 50 to 100 meters apart. In front are barbed wire entanglements and mines.

Sometimes mine fields and high explosive charges are combined with a wire fence. They are of simple construction—to the beams of the dzoti, which are frozen to the ground, is fastened a wire hook or ring to which is attached the barbed wire.

The Germans make extensive use of anti-tank (T-35) and anti-infantry shrapnel mines with instantaneous or delayed action. The spirals made of smooth wire, usually used in combination with mined obstacles, are of little hindrance. Covering the spiral of the mine and entwining in it the wires attached to the fuses of the delayed action bomb, the Germans try to hinder as much as possible the task of demining a mine field.

No matter how carefully the German defense has been planned, it is always possible to find a vulnerable spot. In order to find such places, every commander must be able to determine the system of fire used, the character of defensive works and the obstacles of the enemy, and also the method of their use during combat. This is attained by careful reconnaissance, attentive study of the terrain and constant observation of the enemy.

Russian Cavalry Leads Timoshenko's Offensive

By Brigadier General H. S. Sewell*

RUSSIAN communiques of the last seven months have made frequent mention of the good work done by their cavalry. When the counter-offensive opened last October, it was the mounted arm which played such an important part in turning the Nazi position at Rostov, and later it earned distinction in the fighting on the Moscow front. When winter closed down and the plains of Russia were covered with snow, the use of horsemen in coöperation with ski troops was mentioned in almost every advance made by the Red armies. With the coming of spring, cavalry activity increased, and they are now leading the offensive which is being directed by Marshal Semyon Timoshenko, Russia's most distinguished cavalryman.

Russia is the only country which has a great force of cavalry. All the Western European powers reduced the numbers of their mounted troops during and after the First World War.

In 1939 the cavalry strength of Germany was 2½ divisions, of France and Italy 3 divisions each, and of England 4 regular regiments and 1 yeomanry Division. Russia at that time had 32 horse divisions and 2 independent Brigades, and Poland had 15 Brigades. The present strength of the Russian cavalry is said to be even greater. Germany also may have increased the numbers of her mounted men, but it is not possible for Germany even to approach the Red army's strength in this arm, which by now may well be from 35 to 40 divisions.

Cavalry is considered an important offensive weapon in the Red Army and is well equipped to carry out that rôle. The retention of this arm of the Russian forces has not been for any reason of sentiment or tradition; the Russian staff are too realistic to be influenced by such reasons. They have modernized their mobile forces in the way best suited for fighting in the vast areas with poor communications in which they have had to operate.

In Russia during the spring thaw, no force can move anywhere off the roads except the cavalry; roads are few, and in the snow they have shown how they can work with fast-moving ski troops. In summer, horses can, to a great extent, live off the land and they are not dependent on supplies from the rear as is a tank, which cannot move without gas.

We have no knowledge of the present organization of the Russian Cavalry Division. The Soviet Cavalry Training Manual for 1933 laid down the strength of a division as 20 squadrons, 10 batteries of artillery, 3 strong tank units, armored cars, signals and engineers, a total of 3,701 men, 3,533 horses and 42 fighting machines.

Machine guns are carried on light carts drawn by 4 horses and every eight men in a squadron are equipped with a light machine gun or a grenade thrower. This was the organization of nine years ago, and it will have been kept up to date in weapons and equipment, particularly in tank fighting equipment.

Cavalry on foot can carry out all the functions of infantry, and their mobility when mounted, usually enables them to choose the direction from which to make their attack. They are able to cover great distances with a minimum of fatigue. The rider is at advantage in this respect compared with the foot soldier and he travels almost as fast, and much more comfortably, over broken ground, than the truck-borne infantryman.

*Brigadier General H. S. Sewell began World War I as a cavalry captain and at its conclusion was one of the youngest generals in the British army, in command of the First Cavalry Brigade. He is recognized as one of the leading commentators on military history and strategy.

Cossack machine gun carriages advancing to new firing positions on the Crimean Sector.

Soviet junior lieutenant giving Cavalrymen an assignment.

Soviet Platoon in Action

FOLLOWING the German reversals during December, 1941, many small Soviet cavalry detachments were operating in the rear of the German lines. One of these detachments, probably a reinforced troop, under command of Lieutenant "K" was acting as the left flank security detachment of a larger Soviet force.

This unit, moving up from the south where the main Soviet force was located, occupied the village of DOLIDOVA in the afternoon. The German withdrawal was expected to pass through the village but the lieutenant had no other information concerning the strength or location of the German forces. He decided to remain in the village for the night and send out reconnaissance patrols.

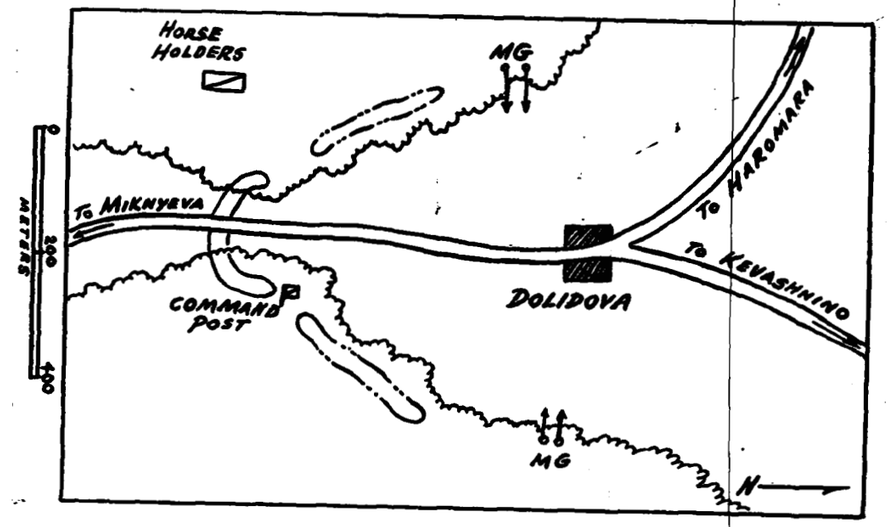
Local security outposts were first placed on the main avenues of approach to the village and in addition a system of roving patrols was established connecting the outposts. The lieutenant then dispatched the largest of two patrols on the road to KEVASHNINO under command of Sergeant "H." This patrol had the mission of reconnaissance in the vicinity of KEVASHNINO and to the northwest and of destroying any enemy patrols encountered. The second and smaller patrol moved out on the road to HAROMOVA with the mission of reconnaissance to the north and northeast in the direction of HAROMOVA.

No action occurred during the night but in the morning Lieutenant "K" received a message from Sergeant "H" stating that he had encountered an enemy force near KEVASHNINO consisting of a troop of *cavalry* and a few tankettes. The German force was reported moving on the road to DOLIDOVA and about eight kilometers north of DOLIDOVA. Lieutenant "K" estimated that the enemy should arrive at his position in an hour or an hour and a half.

The lieutenant decided to leave the village and take a concealed position in the woods, which were about 300 to 400 meters south of DOLIDOVA, hoping to trap the enemy as he emerged from the village. He distributed his force as shown on the accompanying sketch, blocking the road with one platoon. His machine guns were placed on the extreme flanks to secure the maximum flanking fire on the enemy. The individual troopers were also equipped with antitank grenades and the machine guns with armor-piercing ammunition.

At noon Soviet scouts observed four German tankettes and two infantry companies nearing DOLIDOVA on the KEVASHNINO road. This enemy force delivered heavy fire into the town before entering. About ten or fifteen minutes later the *German cavalry* appeared on the same road with an advance guard of eight troopers. This cavalry marched through the village toward the Soviet position. The infantry and tankettes remained in the village to cover the advance.

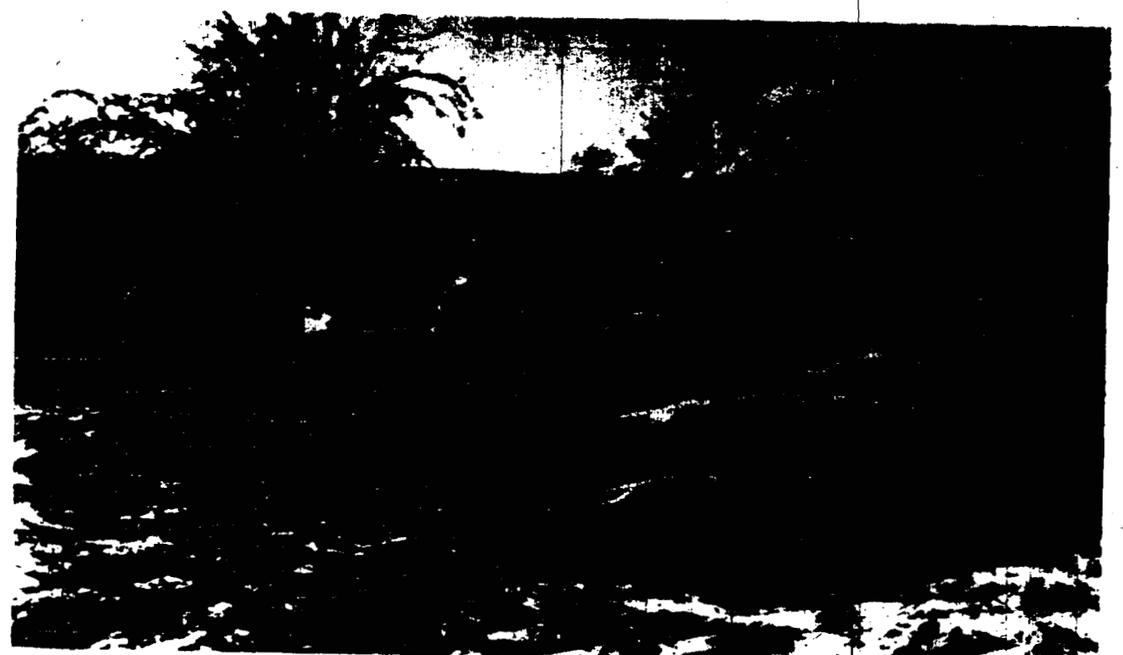
Lieutenant "K" allowed the enemy advance guard to enter the forest and held his fire until the head of the



main cavalry column reached the woods. At this moment he gave the signal to fire. The Germans were trapped by the platoon covering the road to the south and flanking fire from the woods on either side. After suffering fifty per cent casualties in horses and thirty per cent in men, the Germans left their horses and retreated to DOLIDOVA. Owing to still superior enemy forces the Soviets did not pursue.

The four German tankettes and a company of machine guns advanced on the Soviet position and opened a heavy fire supported by the remaining German cavalry. The Russian forces quickly withdrew to the village of MIKNYEVA further south. The Germans did not pursue.

The Soviets believe that this successful cavalry action against a superior force was due to good reconnaissance and a correct decision as to where and how to give battle to the enemy. The only criticism which was made by the Soviets was that Lieutenant "K" withdrew sooner than required.



Advanced observation post on the Southwestern Front

Training Cossack Reserves

*By Efim Borosh**

IN ancient times people told a legend about a hero who became invincible the moment that he touched earth. This simple and wise tale comes to mind when one walks along the quiet green fields across which runs the wide strip of the Great Ferghana Canal.

Thirty-four horsemen, spurring thin legged mounts, emerge from the village. They wear padded black and orange colored robes and bright kerchiefs over black embroidered skull caps. The odor of dust, raw hides and horsesweat that accompany cavalry marches, hangs over the peaceful land. Horsemen reach well rammed grounds where they dismount and form into ranks holding the horses' bridles.

The day before yesterday they steeplechased across fields. Yesterday they moved against the current along the sticky bed of the small river. Today Yakubuzhan Basarov is in command, teaching collective farmers the rules of the Uzbek war game. This game was born many centuries ago among a warlike tribe. Hundreds of horsemen would gather in the steppe watching impatiently the man who held in his hands the carcass of a black he-goat. The he-goat was tossed upward and the horsemen rushed to it in an effort to catch it in flight. The lucky fellow who got hold of the carcass then galloped away into the steppe! His rivals deployed in a semicircle and gave chase. Sometimes one of them would overtake the man with the carcass, but being an agile horseman he would glide beneath his horse's belly and escape danger. Sometimes when a horseman, stronger and more agile, wrested a carcass from the one who had caught it, he was sure to be pounced upon in turn by one still stronger. He would then press high heel against his stirrups, while the rival, seizing the carcass, would try to pull it away; but he would lie down sideways, stretched across his horse, and the hand of the pursuer would remain suspended in the air. Then he would put all of his force into his bent right leg, which held the carcass like iron pincers, and after overcoming numerous obstacles would stand before judges claiming victory.

This game was handed down from generation to generation. It developed the agility and grit of the men, toughened their muscles, hardened their will, and turned a horseman into something almost inseparable from his horse.

This game of Uzbek heroes came down to our time, and last winter Red Armyman, Armed Aliev, using one of its tricks, brought a live German officer to the headquarters of his unit.

Bazarov now teaches collective farmers the tricks of this game. Holding a restraining hand on his prancing steed he stands in the center of the grounds; tall, bronzed, and looking like Ling, the warrior of Tamerlane's times. A yellow band around his black skullcap gleams in the sun's rays. On the ground, instead of the carcass of a he-goat, there lies a hundred twenty-pound sandbag. Bazarov spurs his horse, whirls over the ground, gallops past the sandbag, lifts it with his right hand, simultaneously raising his right leg prepared to press down.

Eyes glitter as they watch the commander. Only military discipline keeps them in ranks, holds them from flinging themselves in pursuit of Bazarov in order to seize the bag in the noble duel. They stand like statues, their hands resting on the hilts of daggers whose well aimed blows will shortly be felt by enemy scouts.

Explaining what is required, the commander throws down the sandbag. At word of his command the men impetuously get into their saddles and, almost lifting their horses from the ground, they whirl one after another bag, lifting with their right hands, while in full gallop they make a circle around the grounds and return to their places. Yellow dust raised by the horses hovers like smoke in the air. The whinnying and stamping of horses and the guttural shouts of the horsemen disturb the stillness of the spring morning.

This goes on for two hours, then the exacting commander demands that his men repeat the performance until they achieve perfection. Steam rises from the rumps of sweating horses. Bright kerchiefs wrapped around skull caps darken with perspiration. A hundred and twenty pound sandbag lifted by strong arms lands beneath the horseman's bent knee before he stops.

When the collective farmers have been trained, they go back to their regular jobs working the farms until the time when they are needed.

This is the story of how one collective farm in Uzbekistan, a thousand miles from the war front, prepares its reserves of manpower, for the day when they shall be called for war duty.

*Soviet News Correspondent.

Red Cavalry Has a Lesson for Us if We'll Heed It!

By Cable From the Soviet Front

(Exclusive to the Cavalry Journal)

Russian Partisan Warfare Coordinated With Red Army

By Battalion Commissar Volkov

RUSSIAN *Partisan** Detachments are operating in ever closer coördination with the Red Army, and by blows skilfully dealt in the enemy's rear at the right moment, do much to further the advance of Red troops. This coördination is becoming more and more definite, effective and *systematic*.

One *Partisan* detachment recently partook in an attack on the enemy's fortified center in conjunction with regular Red Army troops. A plan of joint action was drawn up beforehand. The *Partisans* were to attack the stronghold from the rear, and Red Army troops from the front. At a given signal, guns, trench mortars and machine guns opened fire. *Partisans*, approaching from the west, penetrated the village which was the key to the German defense. Their appearance came as a complete surprise, and the dumbfounded Germans were unable to put up any serious resistance. Forty minutes after the attack began *Partisans* sent up three red rockets as a signal to the commander of the Red troops that the village was in their hands. Meanwhile, troops attacked the fortified center at another point, and the operation was a complete success.

On one sector of the Southwestern Front, Red troops were attacking furiously, and the retiring Germans had only one railroad line by which they could bring up reinforcements and supplies from the rear. This line was blown up by *Partisans*, and a train of thirty cars was derailed and seventy Germans killed.

At another time a German battalion proceeding toward the Front was unexpectedly attacked by a *Partisan* detachment commanded by Sharikov. After a short but fierce engagement, dozens of German corpses strewed the road, and the *Partisans* made off with considerable booty.

*Guerrilla

Destroy and Harass Nazi Headquarters

Nikitin, who before the war was an agronomist, is now head of a *Partisan* detachment which has become a terror to German headquarters staffs. Acting on instructions from a commander of the Red Army troops, Nikitin's detachment destroyed German communications on a sector being prepared for a counterattack with the result that the direction of the German troops became impossible. His detachment also wrecked the headquarters of several German units, cut thousands of yards of telephone cable, destroyed two headquarters wireless installations and captured many valuable orders and documents of the German command. Among them, incidentally, was one offering a large reward for his own head.

Nazi Tanks and Motor Vehicles Victims

German mobile units moving along the road between two cities in the Orel region were repeatedly attacked by *Partisans*. On one occasion an enemy column was moving toward the Front headed by seven tanks and followed by infantry mounted on motor trucks. Veryovkin, commander of the *Partisan* detachment, decided to bar their path and detailed a body of tankfighters to do this job. They hid in bushes by the side of the road, and when the tanks approached they hurled grenades and fuel bottles at them. Not a single tank got through! In addition, twelve trucks were destroyed and about a hundred Germans killed by well aimed grenades. This action was of considerable aid to Red troops operating in this area.

Another *Partisan* detachment was requested by the commander of the Red Army unit to guard a high road in the vicinity of a large factory. This detachment annihilated three German reconnaissance forces, dispersed an enemy column of motor trucks and carts carrying

ammunition, destroyed nine tanks and over a score of truckloads of infantry, and captured the headquarters car in which valuable documents were found.

Partisans Increasing in Force and Effectiveness

Partisans have acquired great experience in fighting. The number of detachments has grown considerably as their military efficiency has improved. They now control whole villages, towns and districts. What is known as the "Partisan Land" is steadily extending its boundaries. This is a source of deep concern to German forces of occupation, and they are trying to stem this expansion by increased severities and brutalities towards the noncombatant population, but without success. Activities of Soviet Partisans continue to become more energetic and determined.

Destruction of Nazi Railway Trains

By V. Arefyev*

TRAFFIC on main railroad lines connecting the German rear and front has been badly disorganized as a result of activities by Orel *Partisans*. These raids by *Partisan* detachments, causing frequent derailments, have compelled the Nazis to maintain a garrison numbering between two and four hundred at each station on their supply lines to the front.

At present the Germans use the line only in daylight for three or four hours a day. In the early mornings, before letting trains run, large squads of German soldiers are first sent to examine the tracks. They are followed by *mounted gendarmes*, then a trolley, and finally an armored train which keeps firing machine guns, all the while combing the forest. Only after these precautions have been taken are the accumulated trains allowed to pass. Then traffic is again suspended for the rest of the day.

All of these protective measures, however, do not avail the Germans against *Partisans*. The other day a German patrol, while examining the track in the morning, found thirty kilograms of TNT buried beneath it. The German soldiers began calling for other patrols, hoping that there was sapper. "Russ mine! Russ mine!" they called.

Partisans who watched them from ambush exploded the TNT, destroying the entire squad of Nazis. Later at night came the *Partisan detachments*, armed with machine guns and trench mortars. They again mined the track and laid ambushes in three places. The next morning the Germans, because of their urgent need, decided to send the train through without again examining the road. As soon as the train, running at high speed, appeared, the explosives were set off and the train loaded with tanks and motorcars was derailed. The *Partisans* opened artillery and trench mortar fire at the scene of the wreck, and not until the train was on fire and all cars smashed did they withdraw to the forest. Traffic was disrupted for two days.

That same night other *Partisan* detachments wrecked troop trains on the branch line leading to the German front. Thus, in the course of one day *Partisans* put out of commission about one thousand Nazis, fifty tanks and motor cars, and five railway cars.

*Soviet correspondent on Central Russian Front.

Having captured part of a village on the Southern Front, Red Army men are engaged in driving Germans from the remainder of the houses.

Cavalry Still Potent Weapon Soviets Prove*

By Walter Kerr

MOSCOW, May 24 (Delayed).—Probably no arm of the service has undergone such a radical change on the long Eastern Front during the fall, winter and spring fighting, as the Red cavalry.

Not only has the horse not given way to the tank, truck and armored car, but the Soviet army has increased the number of cavalry divisions, *and the Germans for the first time in this war are using large cavalry formations this spring.*

And that does not mean cavalry in the sense of a lot of vehicles and a lot of horses. It means that horses are carrying and drawing plenty of fire power supported, when the situation requires, by tanks and planes.

I talked today about the cavalry in this war with a soldier who knows as much about it as anyone. He is a Cossack from the Urals, Major General Victor Timofeivich Ubukov. General Ubukov, 41, fought here in the civil war after the revolution, and he knows his business.

Used in Big Formations

General Ubukov told me that the Red army found the Germans for the first time using cavalry this spring in formations as large as a brigade or a division. They have been active on the Central Front and in the direction of Kharkov, and he said that I could expect to hear this summer of an engagement between the opposing cavalry forces. He seemed to enjoy the prospect.

The cavalry leader told me, too, that cavalry divisions had doubled their antiaircraft and artillery and had increased the number of antitank weapons during the winter and spring. He said that the cavalry hits harder today; though it hit hard enough last summer, fall and winter.

General Ubukov also told me that a saber charge wasn't a thing of the past, though, of course, it only could be used in special circumstances. And he told me that a modern cavalry division was not afraid of a tank division.

The general made clear that the basis of theory on the use of the cavalry in the Soviet Union was its use in large formations from a division to larger formations equipped with modern weapons and with air squadrons in support, fighting on a front of their own and not attached to the armies.

Only after understanding that, he said, was it possible to understand what the cavalry has accomplished here. He thought that the trouble with the cavalry in Poland and France was its use in small formations, dispersed about the front and often handicapped by too many vehicles. The Soviet cavalry avoids vehicles if possible.

Example of Power

One example of the cavalry's striking power that he cited occurred last year near Pervomaiks, in the Ukraine, when Lieutenant General Pavel A. Belov's First Guards cavalry corps, ran into a German motorized force in March. It went into battle directly and captured the town of Balta. It made its way to the rear flank of the German Nineteenth motorized division and the 293d and 297th infantry divisions. The three German divisions were routed, their counterattacks repulsed and their loss boosted to 4,500 men by the use of antitank guns.

That was an example of the cavalry's striking power in an engagement. An example of the cavalry on the defense is the battle between a force under Major General Kruchonkin, defending the banks of the River Ikva last June 26 and 27, and the German Eleventh armored division. The attacks of the Nazis were beaten off, the enemy leaving 60 machines destroyed on the field, together with the personnel of two infantry battalions and a number of guns. That cavalry force had as its mission the delay of the enemy and then a withdrawal.

As the war progressed, the Soviet cavalry learned to increase its fire power, still sticking to the principle of not using vehicles when they might interfere with the mobility of the horse units. An example of the cavalry in an attack was last November's counter-offensive, which liberated the important city of Rostov. The city had been seized when a German armored force broke through the narrow front, but made the mistake of leaving its north flank wide open.

The attacking Soviet cavalry composed of several divisions and supported by light tanks and air power, struck swiftly and routed the Nazi 16th tank division and the 60th motorized division. In that instance, the cavalry followed the tanks and, behind a curtain of fire, charged with drawn swords.

"Mounted saber charges," the general admitted, "are rare, but they are still made. At the end of 1941 Major General Lev Dovator's corps charged into the German Sixth Army west of Moscow and destroyed a whole infantry regiment, killing 2,000 officers and men.

"Cavalrymen in that engagement captured over 300 vehicles, 100 cannon and many machine guns and other weapons. They even routed the headquarters of the Sixth Army, and prisoners said that a rumor spread that 100,000 Cossacks had broken through. They were Cossacks, but there weren't 100,000 of them."

*By courtesy of *The New York Tribune*.

Combat Intelligence
For Armored Units

*By Major Karl L. Scherer**

ALTHOUGH our Field Manuals express it in other terms, "*Go where the going is easy,*" is a (and some say *the*) basic principle of the armored attack. Actions of armored units, made with this basic doctrine in mind, have habitually succeeded. Disregard of it has habitually resulted in terrific losses. "*Go where the going is easy,*" is a very pat saying, of such obvious truth, that there must be some reason why it is not generally followed. We habitually disregard it.

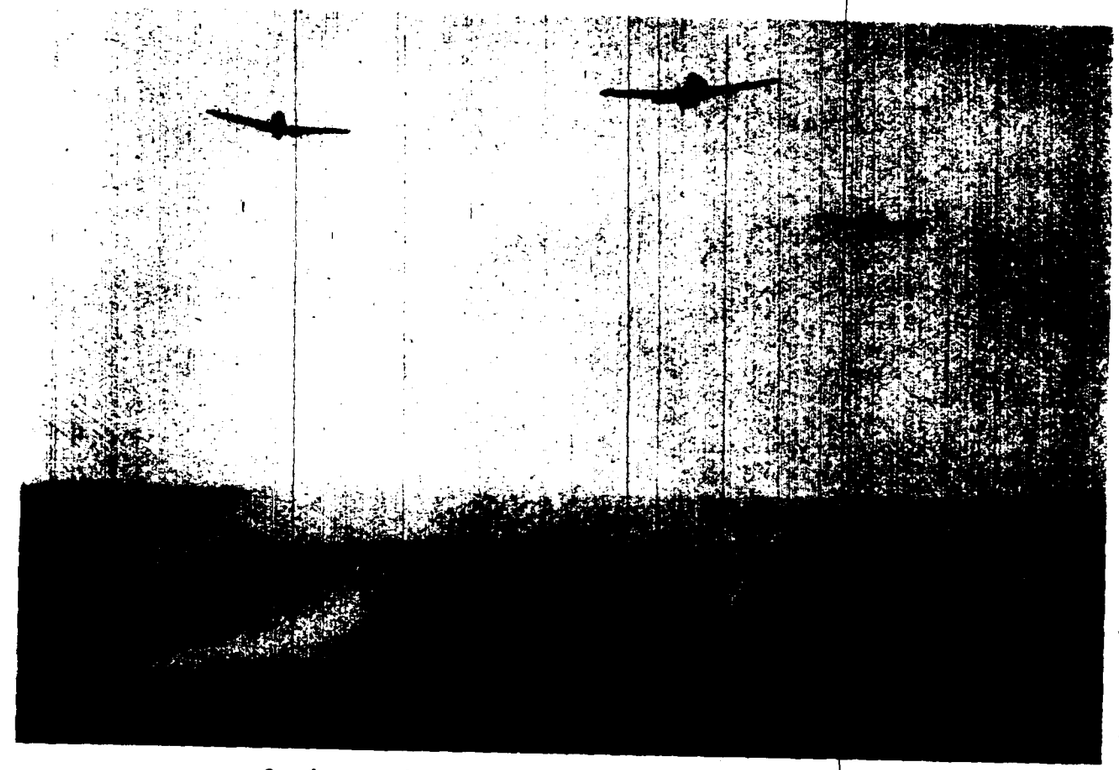
In the final stage, what is the margin of victory in the armored attack—maintenance, fatigue, lack of resourcefulness, terrain? No, in short it is combat intelligence. Everyone works his heart out to advance—to accomplish his mission. The multitude of unsung heroes hit the hard spots and bounce, while a chosen few, and usually a *very* few, find the soft spots and are able to advance. Unbelievable as it may seem, it is always the small element, one single platoon of a regiment which finds this soft spot and gets through, and never the bulk of the regiment or even battalion. To repeat, then, the margin of victory in the armored attack is combat intelligence. By transmitting information of soft spots, the subordinate tells his commander the most important information that the latter can receive. In this way only can the entire command accomplish the mission.

It may clog the radio net to have such messages as, "*Advanced unopposed* CENTER *to* BARN *to* SMITH," coming in from the 2d Battalion, when the advance guard company has seen nothing but one .75 all day. But it will mean far more than, "*Advance opposed by AT guns every 800 yards* CENTER *to* BARN," in the eventual accomplishment of the regiment's mission—a deep penetration into vital hostile rear installations. This deep penetration via unopposed areas is perhaps the most powerful of all weapons in the hands of armored units. For this penetration presents a threat, pure and simple, to the hostile forward installations and will cause enemy withdrawal without even the benefit of actual contact.

If you do hit a soft spot, be sure to get that information back. If you don't, the entire outfit will never have a chance of reaching first base, its mission cannot be accomplished. Had they thought your command could have accomplished the mission alone, they would not have bothered to send the rest of the outfit. The

*6th Armored Division.

Company commander receiving radio message in interior of tank.



Speedy armored cars test the strength of the enemy's positions.

reason we never "Go where the going is easy," is that we have failed to emphasize the importance of the soft spots; we have failed to demand the immediate dissemination of information of these soft spots. Until we have rectified these failures, we will continue to try to do it the hard way, or rather, the impossible way.

Fire and Movement

No mention of Armored Force tactics, these days, is complete without a reference to fire and movement, and actually no armored attack is successful without an application of it. This has been emphasized for the platoons to such an extent that they are finally actually working by fire and movement. The larger elements are obviously still working on some other basis. This doctrine has worked out so well for the platoon, however, that it would do well to examine it, and to try to apply it to the larger commands.

Basically, fire and movement is simply the combat intelligence. Joe's section advances and encounters an AT gun. Joe indicates the gun to Pete by fire or signal, and has Pete run over the gun from a different direction, while he fires from his own position. Joe has met opposition which he cannot handle economically himself, and he gets Pete to help him. Joe would have been a dead hero had he barged in alone against greatly superior odds. Applying this same principle to larger units, it would certainly be more desirable for the platoon to call upon its company commander, or a company upon its battalion commander for assistance, rather than to barge in when opposed by greatly superior strength.

Referring again to the larger commands, we run into the question of time. No longer can the teamwork be accomplished by a simple burst of tracer or a flag signal. Between the higher units, the request must go by radio normally—and as such is an official admission to your commander that you need help to accomplish a job economically. This seems a terrific confession of weakness or lack of boldness; and it also conflicts with the venerated motto, "Hurry up and Wait;" because such a procedure takes time. It may even take thirty minutes to go back to your company commander, if your radio is out, to tell him of the situation.

Suppose that you do advance, and you do take it on the chin. In many cases you will get through; the opposition may not be as tough as you had guessed. If your estimate was correct, however, if you are up against greatly superior strength, your motto soon will be, "Hurry up and wait for Eternity."

Just as certain opposition warrants fire and movement for the platoon, comparably greater opposition

(and the degree is to be decided, as always, by the commander) will warrant fire and movement for the larger elements. If your radio works, use that; lacking the radio, send a messenger; lacking a messenger, leave some tanks in observation and take another combat vehicle back with yours to your commander (the British never send one vehicle on a courier mission), so that you may tell him the situation exactly, and assist him in using the terrain you have already covered to the best advantage.

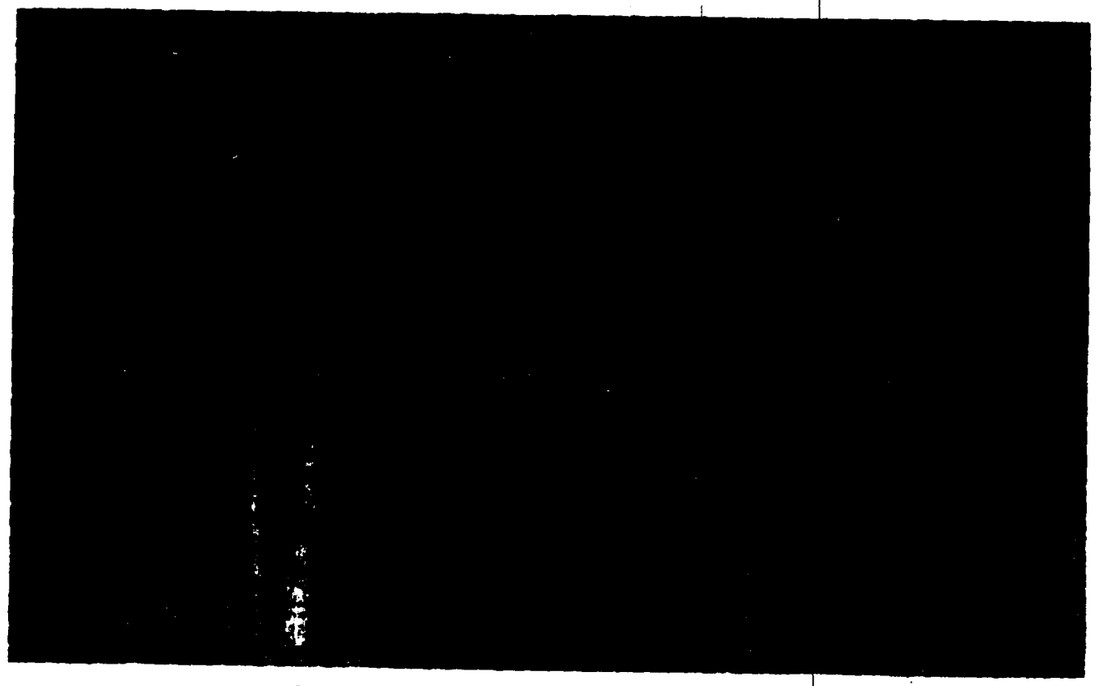
Send the Message

What happens when you decide to take your chances, and either the remnants of your command get past the strong opposition or your command maneuvers around it with negligible loss, and you go blithely on your mission without informing your commander? He advances behind you, trusting that the path is clear, and suffers heavy losses. Furthermore, new on the scene, he cannot profit by your solution of the situation. Doubtless, he will repeat all of your mistakes. On the other hand, it is very doubtful if he will find the same soft spot, without considerable reconnaissance.

All of this does not sound the death knell for surprise and boldness.

For success in the problem immediately at hand, surprise and boldness are, of course, prerequisites for armored action; but they must not exclude the use of all information in the possession of elements of the command. Only by the use of all of this information can the mission of the entire command be accomplished, can the high casualty rate in armored vehicles and personnel (a rate, which apparently in this present war decimates the command after every engagement) be kept down to figures for which we can supply replacements, considering the modest surplus of trained armored troops. In any case it is imperative that you get the information of the strength of the opposition to your

Armored scout car crossing a stream.



Reconnaissance battalion advances through the woods.

commander; otherwise no one can profit by your glorious unsung death.

Reports are a pain in the neck. The necessity of certain reports in combat can be explained if you will put yourself in the position of the commander rather than that of the commanded. You, as company commander, feel much put upon when the battalion commander asks you for your location, strength, and opposition encountered. However, just five minutes beforehand you had been trying to get the very same information from one of your worthless platoon commanders, because it was vital for your decision for your next move. Perhaps that platoon hadn't moved for the last three hours, and the platoon leader thought that you would have realized that the situation was unchanged, what with no bad news coming in from him. Just the same, if he would only send in a positive or negative report once in a while, you could devote some of your time and thought to your other platoons.

What, Where, and How Much

Reports are necessary, even in battle, and here's what you have to get from your subordinates—and conversely what your superior has to get from you—in order to employ that element with any understanding. There are really only these three things: *what* is left, *where it is*, *how much* (or how little) opposition. The message from a section leader to his platoon leader—"*Two AT guns 500 yards south of us,*" means nothing to the platoon leader if the section has been forced to abandon its vehicles. Obviously the platoon leader cannot properly support a section making this report when he assumes both its vehicles still in action. Likewise the message from a platoon to its company commander—"*Lost 2 tanks—remainder held by strong AT gun fire*"—does not tell the company commander where he can expect the enemy guns to be located, so that he may knock them out by a maneuver of his reserve platoon. In the same way, a message from a company to the battalion commander such as—"*My 12 tanks 1 mile west of BAKER. Held up*"—does not give the battalion commander sufficient information to decide whether to, or how to support this company.

Terrain

No one with the slightest experience with the movement of armored vehicles can fail to be impressed by their sensitivity to terrain. Each new development of armor and weapons has actually only increased this sensitivity. These new developments do not warrant a change of general tactical armored force doctrine; they do not permit us to "go down the alley" against strong AT opposition. At the same time, they do make "go where the going is easy" a matter of more careful advance planning. With the heavier, less mobile vehicles that we are now getting, terrain becomes progressively a more important factor in our "opposition." Report of suitability of terrain for armored movement in the past

has been considered a superfluous, academic, one. However, when an armored advance is opposed—and when can the enemy afford not to oppose this threat in strength—movement across country is the only economical method of advance. This does not preclude the use of roads in the advance to contact; but after opposition is met on a road, continuing on that road to see if opposition is really organized in depth will result in terrific losses per mile of progress.

There are two requisites for maneuvering around, for "by-passing" such hostile opposition, after it is met for the first time. One is advance terrain "planning"; the other, early report of terrain suitable for tank movement. No matter how small the command is, the commander must "plan" his terrain in advance, if he is not to lose his entire command, one by one, butting up against a stone wall of opposition in depth.

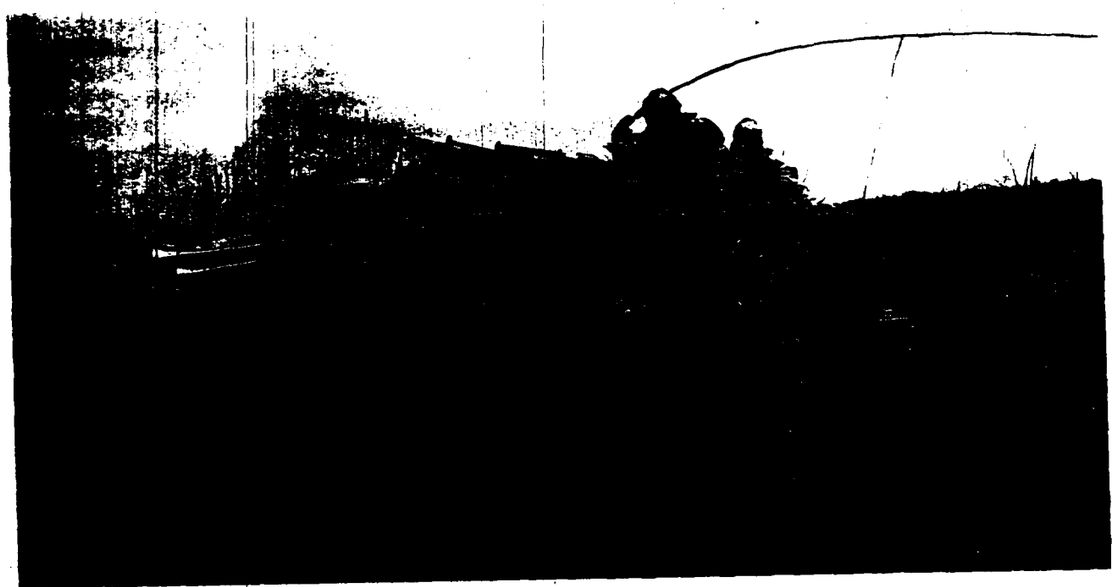
In this advance planning, he must consider three factors. First, he must have a marked map of the main roads, crossroads, and stream crossings which the enemy may use for movement or for defense. Second, he must expect to be denied any or all of these terrain features. Third, he must have a map, ridge-lined to show where cross-country movement will not be impeded by water courses. Armed with this knowledge in advance he has one of the requirements for cross-country movement. The second is, of course, verification of his map study, by reconnaissance—reconnaissance paralleling the elements which are on the main route of advance, reconnaissance which will not hesitate to report, *"At RED BARN. Good tank terrain,"* as well as *"At AUBURN terrain unsuitable woods."*

Terrain, quite as much as enemy, must be considered as "opposition." And the degree to which present or future terrain opposes our movement is of vital interest to every superior. At the same time, reports of the degree to which terrain facilitates movement are of paramount importance in permitting a superior to "go where the going is easy."

Conclusion

What's left, where it is, and how much opposition are absolute minimum requirements in the line of reports. And as a point of fact, considerably more than actual habitual practice in our armored units. These points of information should be transmitted, unless ordered more frequently, whenever there is a change in the situation which might necessitate an action by the higher commander. Besides these minimum requirements, the following items of information are very helpful in painting the picture for the commander, and should be transmitted immediately whenever possible: supplies, opposition already overcome, friendly troops. However, if you forget all else remember the Big Three of Combat Intelligence as applied to armored elements, and it would be well for all those who have any connection with reports or command to keep as ready reference: What's left, Where, and How much opposition.

And how does the commander fulfill the above demands made upon him, when his attention is already completely taken with the two principal duties of a commander: accomplishing his mission and safeguarding his command? The demands on the commander's



Armored division commander issues orders to his unit commanders who are gathered about the map.

training, ingenuity, courage, memory, and stamina are huge. And no one else can assume the commander's responsibility. However, any way that he can be assisted in his tasks will help to insure the accomplishment of his mission with the least loss. Just for that reason, the Company, for instance, has keymen—a First Sergeant, a Maintenance Sergeant, Mess and Supply Sergeants. With maps, reports, codes, possibly prisoners and navigation—to name a few of the complications which confront even a platoon leader at the same time that he is "commanding" his platoon—he should be helped in all of these matters by a competent man who rides in his own vehicle.

For this purpose, an intelligence agent to assist all commanders down to and including the platoon leader has been designated by War Department Training Circular. This intelligence agent is a man selected by the commander himself, to act as his auxiliary thinker. His principal duty as a member of the vehicle crew is to help the commander fulfill the demands of combat intelligence, while not relieving the commander of final responsibility in that line. He must be positioned in the commander's vehicle so that he may assist the latter at all times. He must be trained, in general, by the Regimental S-2 and in detail, by the commander himself. Obviously he must have above-average intelligence and resourcefulness, as well as have the full confidence of his commander. The turnover of this personnel will be rapid, as such men will normally be next in line for promotion.

The specific duties of the intelligence agent will be the writing of messages upon the dictation of the commander, the plotting of any information on the map, insuring that the superior commander is always aware of his subordinate's situation, encoding and decoding, examining prisoners when necessary, estimating terrain, and navigating. Such a man must be good, must have the confidence of his commander, and must be free and instructed to perform these duties. To be sure, at times it will be more important that he fire a weapon, but he must bear in mind that it is his never-ending duty to assist his commander locate and report immediately on the enemy and the terrain, so that the entire command may go where the going is easy, so that the entire command may benefit from information gained. Combat intelligence is his pricipal concern.

To varying degrees it is true for the platoon as well as for the division, that the most decisive results of armored employment will be gained by launching armored units against vital objectives deep in the hostile rear. We must discontinue the practice of banging away at front-line opposition. Reaching a properly-chosen objective is the all-important thing, and not the destruction of opposition along the route of advance. Other arms are better qualified to accomplish this destruction.

Armored units alone are capable of presenting a strategic or tactical threat. To reach an objective the principle of fire and movement must be applied to the larger units. Some elements must hold while others advance by maneuver, and then take advantage of that route to advance themselves. "Taking out" across country readily must be the solution for advance when held up by opposition: and to do this, terrain must be studied well in advance. Everything points to placing the emphasis on negative information—reports of small opposition and of good tank terrain.

Even assuming that our training, our equipment, and our execution are perfect, there is still one glaring deficiency in our armored technique. We have not solved the problem of combat intelligence. We have not decided what information we want of combat intelligence, what can be the technique of gaining this information, and just how we can use the information, once gained.

When combat intelligence is properly used, then and then only, can armored units be the decisive element in a battle that they were designed to be.

The Place of Guerrillas

There is a school of thought in this country (referring to Britain) which holds the view that after a few weeks' training civilians will be able to withstand disciplined troops in the field. The whole teaching of history appears to be against any such theory—but whether or not this theory is correct today is not material from our point of view. What we have to remember is that the guerrillas, with whom we shall be called upon to deal in the event of an invasion of these Islands, will be picked Regular soldiers specially trained for their work, and that they will be operating in a small country in which there is little room for manœuvre and in which there are countless vital objects for them to attack. It was wisely decided, therefore, that the primary rôle of our Home Guards should be to defend their own localities at all costs, leaving the actual task of defeating and rounding up the invaders to the Regular soldiers. This does not mean that the Home Guards are not responsible for dealing with acts of sabotage and the enemy's behind-the-lines activities in their own areas, but it does leave the actual large-scale fighting to trained and disciplined troops. "Irregular forces, even the most skilful, energetic and aggressive guerrillas, cannot win great wars; but they can make invaluable contributions."—*The Army Quarterly* (Eire).

Air Support of Ground Troops

*By Major Harry Disston, Cavalry**

AIR SUPPORT! Air support of ground troops! How appealing that thought has been to the United Nations since its great effectiveness first became a reality in the operations causing the fall of France. How important subsequent developments proved it to be. Our armies will have it.

On September 1, 1941, there was activated in each of the four air forces an air support command. The other combat components of an air force are a bomber command and a fighter command. All aviation employed in support of ground forces is normally a part of or attached to an air support command.

An air support command is an Army Air Force tactical unit assigned to the direct support of an army or a similar field force. It is commanded by a major general. The air support command is charged with supporting the army ground force with (1) tactical bombardment, (2) observation, visual and photographic, (3) the tactical transportation of troops—para, plane-borne and glider, and (4) aerial command and liaison missions. A typical organization of an air support command is shown in *Figure 1*.

*I Ground Air Support Command.

Bombardment.

Combined operations of air and ground forces must be closely coördinated. Such operations should be conducted in accordance with previously prepared plans. Although at times, emergencies may require hasty action, the effectiveness of operations under these conditions is materially reduced. In general, the control of supporting combat aviation is retained by higher commanders, who direct the plan of employment. Execution of missions is decentralized by assigning one or more air units to the direct support of a subordinate ground unit for a particular operation or for a limited time. This provides for more accurate and prompt operations.

Missions assigned usually include: (1) Attack on defensive organizations, enemy reserves and reinforcements, and hostile mechanized forces; (2) attack on hostile aviation; (3) combined reconnaissance (development of the target) and bombing; and (4) the support of parachute and other air-borne troops.

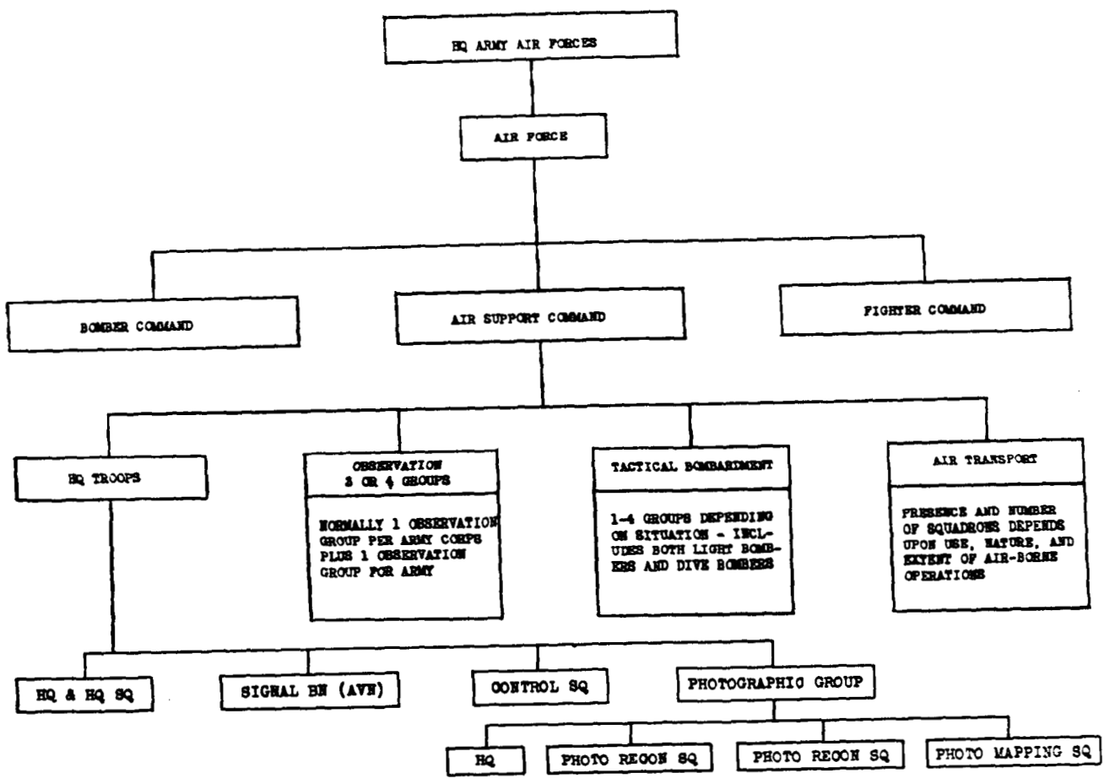


Figure 1: Organization of an Air Support Command.

NOTES: A group in the air forces is similar to a regiment in the ground forces.

Representative of the type airplane used by an air support command for observation and light bombardment.

The selection of appropriate targets depends, of course, on many factors and changes constantly with the situation. Certain guiding principles may, however, be stated. In general, the target for air support should be beyond the effective range of the ground force weapons. It should be sufficiently large to assure the reasonable probability of success considering concealment, camouflage and dispersion. It must be reasonable in the light of the hostile air and ground situation—air support cannot be applied with equal value in all circumstances. Targets must not, of course, be so close to friendly troops as to cause confusion to either the air or ground forces or to include both hostile and friendly forces in a burst, nor should targets be designated where the possibility of a merging of the hostile forces with friendly forces is likely. Targets for supporting bombardment at greater depth include CP's, OP's, dumps, motor and tank parks, lines of communication, bivouacs, assembly areas, etc. *The most important target at a particular time is that target which constitutes the most serious threat to the operations of the ground forces.*

Dive bombing is used effectively against transitory targets of opportunity to the immediate front and especially on the flanks and rear. Armored forces, assembled or in motion, truck columns, artillery in position or in motion, troop concentrations, bridges, pill boxes and the like are obviously good targets for dive bombers. Air bombardment support may supplement and extend the ground forces artillery—rarely would it replace it.

Secondary targets are assigned in each attack mission for use in the event that the primary target cannot be attacked.

In order to protect his own troops and obtain the most out of the support bombardment units, it is essential that the ground commander designate accurately the targets selected. The selection of appropriate targets and a brief and accurate description of such targets affords a profitable subject for study and practice by officers of the combat ground arms.

Observation

The observation groups of an air support command support the ground forces by (1) aerial visual reconnaissance to the front, flanks and rear; (2) aerial photography of critical enemy areas and installations and of bridges, roads and terrain features; (3) observation and adjustment of long-range artillery fire (supplementing the artillery's organic airplanes which do not fly over terrain occupied by the enemy) and, (4) providing liaison airplanes for the use of the commander and his staff and for courier service.

In addition to the observation groups, an air support command normally includes one photographic group. The photographic group performs special missions to obtain data for the preparation and revision of maps and supplements the aerial photographic work of the observation units.

The usual procedure for supporting air reconnaissance is to prepare an air intelligence plan based on the situation; that is, on the ground commander's plans, and the information available from G-2 and G-3 reports. An operations plan to carry out the various reconnaissance missions is then prepared and executed. In this connection, it is interesting to note that a major responsibility of an air support command is to provide the supported ground troops promptly and continuously with air intelligence—both visual and photographic, automatically, and without request—based on an intimate knowledge of the situation.

Information obtained through visual observation is immediately made available to the G-2 and G-3 of the supported troops through the air support control plan, to be described later. Particularly urgent information is transmitted from an airplane in flight to ground radio

stations or by drop messages. For example, where targets of opportunity threatening the supported ground units are observed, this information is radioed by airplanes in flight and is engaged, without request, by the observation or bombardment elements, or by both.

The information obtained by the aerial reconnaissance includes: (1) Location of opposing forces and friendly forces with whom contact has been lost, (2) the assembly of troops for attack or counter-attack, (3) movements of trucks and armored vehicles, (4) location of hostile artillery, CP's, OP's, bivouacs, dumps and other installations (in coöperation with and supplementing similar activities by the bombardment groups in seeking out such installations for targets), (5) the condition of roads and bridges and, (6) the progress of battle-hostile resistance and penetrations into our "lines" —where this information cannot be adequately obtained from the ground troops. It is, however, a primary principle that the supporting observation aviation should not be asked for information which can be secured by ground troops. It is axiomatic but frequently forgotten that air observation *extends* but does not *replace* ground reconnaissance.

In order to attain maximum flexibility in meeting the requirements of the supreme commander of the supported ground troops, all of the observation aviation is assigned to the air support command and the air support commander retains centralized control of all observation avaiation within an army, theatre or task force. Normally, observation units will be designated to support specific ground units and so far as practicable they will remain in support of the same units so long as such direct support is required in the execution of the supreme commander's plan.

It should be remembered that in these days of enemy air equality or superiority—in fact, even in the face of minor opposition—prolonged operations and continued air surveillance are almost impossible. Information is necessarily obtained by rapid sorties to definite locations to obtain specific information. Security is obtained through surprise, speed, altitude, the cover of clouds and darkness and such means. Reconnaissance is habitually made at night.

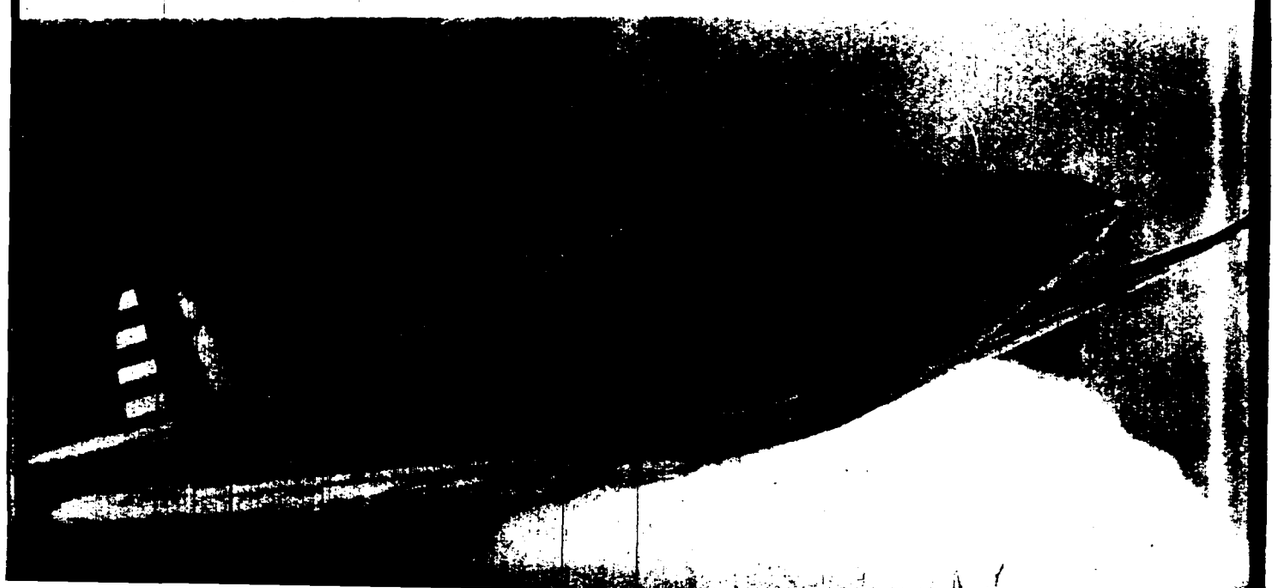
As indicated above, the primary function of observation aviation is reconnaissance—it *avoids combat* by evasive action. Observation airplanes have sufficient maneuverability for this. They also have sufficient fire power to protect themselves if intercepted and sufficient armor to provide protection from ground small arms fire. Supported air observation has a secondary function, *but it is definitely secondary*—the attack of ground targets by gunfire and bombing. This, however, is only undertaken when specifically dispatched on attack missions and only when observation is not required, or in the final phases of an action when observation may be profitably *sacrificed* to fire power.

Air Transport

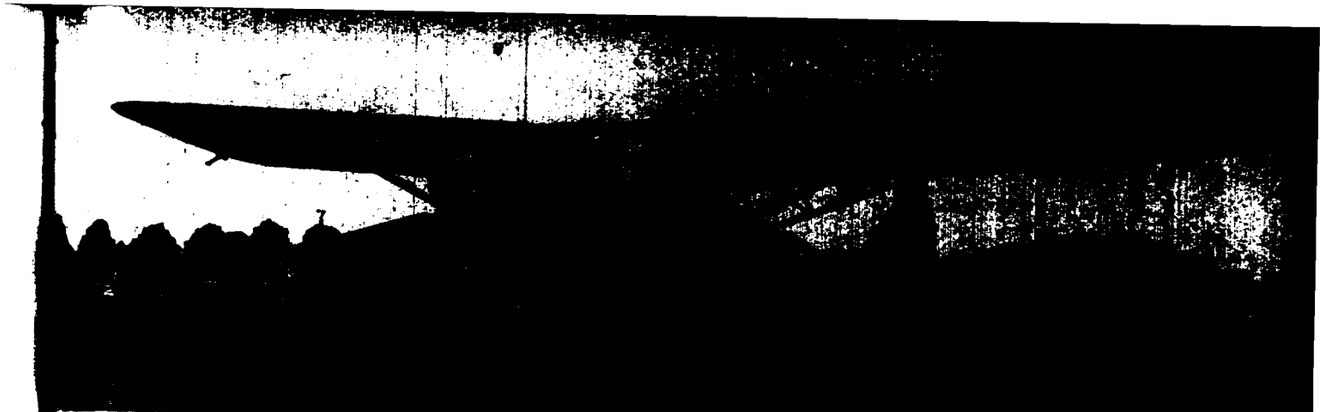
In addition to observation and bombardment, the air support command employs another means to further the ground operations in conformity with the wishes of the ground forces commander. This is provision for the air transport of personnel and their equipment and, on occasions, of emergency supplies. The troops transported are generally those specifically trained, equipped and organized as parachute troops or air-borne troops.

Air Support Control

Coordination of the various activities of the air support command with the requirements of the supported ground troops and provision of effective, rapid and continuous liaison and communication between the air support command and the supported ground troops is, of course, the key to effective air support.



One of the types of airplane included in the observation squadron of an air support command.



Liaison airplane of the type included in the observation squadron of an air support command.

This is accomplished through an air support control plan which incorporates small units representing the air support commander at the corps and division headquarters of the supported ground troops. The unit at a corps headquarters is known as an air support control; that at a division headquarters as an air support party. When the situation warrants, however, especially where the supported ground unit is assigned a semi-independent mission or has superior mobility, an air support control or party may accompany a brigade or lower unit. This generally applies to cavalry or armored force organizations.

The air support control and air support party differ only in size, the former being the larger. Both are included in the control squadron of an air support command.

These controls and parties consist of one or two officers and a small number of enlisted technicians with the equipment (radio and trucks) to make them self-contained and independent with respect to communication and transportation. In this way the planning and execution of supporting air missions is materially accelerated.

The duties of an air support control and air support party officer include: Representing the air support commander; assisting the G-2 and G-3 sections of the supported ground units; evaluating requests for air support or observation and, taking appropriate action on such requests; maintenance of communication between ground and air headquarters, and the prompt dissemination of air intelligence to supporting units.

Requests for air support by bombardment, originating in a division, are referred to the air support party officer who advises as to the most effective manner of accomplishment, feasibility, probability of accomplishment, availability of airplanes and air crews. The air support party officer refers such request to the air support control at corps headquarters where the request is evaluated in the light of the availability of bombardment assigned to support the corps and feasibility of the mission and its coördination with other missions being flown for the corps or other of its component units. This accomplishes an economy of force and equipment and avoids, to a large extent, duplication. If the corps commander approves the request, the air support control officer communicates directly with the airdrome to order the mission.

Ground Arms Officers

It is interesting for officers of the ground arms to know that they are represented in the headquarters of the air support command. The original organization called for one field officer each from the cavalry, infantry, armored force, field artillery and coast artillery (A.A.) on its special staff. Effective July 1st, the ground arms section of the special staff, as a unit, includes a colonel, a lieutenant colonel and two majors preferably, but not necessarily, from the infantry, armored force, field artillery and coast artillery (A.A.).

Conclusion

The air support command then has three powerful basic means of supporting ground operations from the air—bombardment, observation and transport—an effective, varied and coördinated trio. The extent to which the air support is effective depends, of course, largely on the mutual understanding (and respect) of the ground and air support commanders. The air commander must know intimately the ground commander's plan and he must know well also through personal contact and study, the ground commander's *manner* of operating, on what he places the greatest emphasis, how he goes about his job, the characteristics of his decisions, plans and actions, his views on air support and other such things. The air support commander will then be able, in large measure, to coöperate with and support successfully the ground commander's effort based on a brief directive, his decision, his plan-automatically and with few, if any, requests.

The ground commander, for his part, must know well the powers and limitations of his highly mobile, far reaching, rapidly striking and varied supporting air arm so that its capabilities may be exploited to the fullest while at the same time practicing a proper economy of this valuable force.

Blitz Force of War*

By Lieutenant Colonel Tisheng Yen, Chinese Army

EDITOR'S NOTE: *In view of the revived interest in "Sun Tzu" among American officers, Lieutenant Colonel Tisheng Yen herein gives a revised translation of Part V, one of the most important portions of the old Master's work. It is believed that this new translation contains much from the original Chinese that previous versions have lacked.*

MASTER SUN said: Generally to control a large force is the same as to control a few men: it is only a matter of subdivisions.

That is to control by subdivisions in a pyramidal system, such as the whole armed forces of a nation is divided into Army, Navy, and Air Force, and each one of these in turn is again subdivided into various formations and smaller units. No commander can hope to control directly and, at the same time, efficiently more matters than he can count on his fingers.**

To fight with a large force is the same as to fight with a few men: it is only a matter of forms and terms.

"Forms" means the physical strength and disposition of the force; and "terms" the military terms, in the operation of these bodies of troops from an army down to platoons and sections. Though the forms and terms may be on a larger scale, the principles remain the same.

Whether it is a mimeograph order from G.H.Q., or a word of command from the company commander, troops go into action by the same principle. As to organization, in the army there are the Chief of Staff, the General Staff, the Adjutant-General, the Quarter-Master-General, the Master-General of the Ordnance, and the rest of them to assist "the old man"; and in a company there are the Second in Command, the C.S.M., the Q.M.S., the Sergeant of Arms, and some corporals to help the O.C. There is a distinct similarity in patterns and functions.

To ensure that the whole army may withstand the attack of the enemy and suffer no defeat is only a matter of surprises and frontal advances.

We can see here and at other places that not only Master Sun did not advocate positional warfare in general but positional warfare in defense as well.

That the impact of the army may be like that of a grindstone dashed against an egg is only a matter of dispersion and concentration.

*A translation from General Sun Tzu.

**All indented paragraphs are notes by the translator.

Concentration and Economy of Force are two well known principles of war to us. One must never hope for miracles, and in war, when the strength of the enemy is not known, the best we can assume is to count our force as equal to that of the enemy. All plans will be formed on that basis. But how can we expect to beat the enemy when both sides are evenly matched? It seems absurd, but it is not.

Here is a story about the grandson of Master Sun, General Bin Sun. Before he became famous he was a guest at the household of Marshal Ji Tien, Commander-in-Chief of the Army of Chi, a feudal kingdom of that period. The Marshal often had games with the Princes on horseback hunting and archery, and Sun told his host that he had a plan by which the Marshal might win all the games. Thus he suggested, "Now, sir, match your worst horse against their best steeds, your best steed against their medium class horses, and your medium class horse against their worst." The result was two winnings for the Marshal against one loss, and so, of course, he won the day.

This is merely a simple illustration of the principles of Concentration and Economy of Force, or rather the relation of our concentration against the dispersion of the enemy, while not exposing our own dispersion that has to be made to get our concentration in the first place.

Generally in battles one makes contacts by frontal advances, and wins by surprises. So one who knows how to make surprises has no limit like the heaven and earth, and is inexhaustible like the rivers or the seas. . . . There are but five basic musical notes, yet the combinations of these five cannot be all heard; there are but five primary colors, yet the combination of these five cannot be all seen; there are but five major tastes, yet the combination of these five cannot be all tried. The blitz force of war is but a matter of surprises and frontal advances, yet the combination of these two cannot be exhausted. . . .

Here again we see Master Sun was all against the costly positional warfare of pitching materially force against force. For in a battle like this both sides will be defeated and broken. Only by surprises can we hope to win and to come out of it with little loss; without surprise we can not even bring our force to bear.

A seemingly surprise attack may actually be serving the purpose of a feint, while the obvious frontal attack, which seems to be a feint trying to hold immobile the enemy force, may turn out to be the real surprise. Especially when one holds a strong reserve,

Chinese Cavalry on Mongolian front.

it is even possible and wise to change the plan of attack at the last moment, if there is such an opportunity, and to decide which way to let go the full blow of the real surprise, that is whether to strengthen the original surprise, whether to reverse the plan, or whether to smash a surprise blow at a new place.

The Master said, "What is war is only a study of deception."

That the rush of a torrent may even float rocks is because of its blitz force. That the swoop of an eagle may destroy its prey in a single blow is because of its judgment. Therefore a good fighter is overwhelming in his blitz force, and prompt in his judgment. The blitz force is comparable to the bending of a cross-bow; judgment to the releasing of the trigger.

In other words, having the force, we must know where and when to attack.

Amidst the turmoil and tumult of battle one may fight in great disorder, yet one cannot fall into real disorder; and amidst confusion and chaos one may be surrounded, yet one cannot be defeated. For disorder exists only in comparison with discipline; fear exists only in comparison with courage; and weakness exists only in comparison with strength. Discipline or disorder is a matter of organization; courage or fear is the influence of blitz force; and strength or weakness is a state of forms.

No state of affairs is definite: it is all relative. So long as we have the relatives superiority in discipline, courage, and strength, we will beat the enemy. This relative superiority can only be achieved by good training and preparation in peace, and clever manoeuvre in war.

So if one who knows how to keep the enemy on the move is making a disposition, the enemy will necessarily follow in preparation; if one leaves a bait, the enemy will certainly come for it. One would lure the enemy by false advantage, and lie in wait for him with the main body. Therefore a good fighter seeks the advantage of his own blitz force, and does not depend upon the enemy, so that he may choose from the enemy and let go his blitz force. . . . Thus the blitz force of a good fighter attacking his enemy is like rolling a piece of rock down a mountain of a thousand fathoms steep: such is the blitz force of war.

In conclusion to let go the blitz force with surprise and in concentration, we must seize the initiative from the enemy. And this can only be achieved by superiority in discipline, courage, and strength through good training and preparation in peace time.

Colonel Fenton S. Jacobs

Having received the editorial pencil of The Cavalry Journal from Colonel Fenton S. Jacobs, our initial effort is befittingly centered on him.

Colonel Jacobs assumed the editorship of The Cavalry Journal in July, 1940, soon after having completed the masterful and herculean task of compiling the narrative, preparing the discussions and drawing the maps and illustrations for *Cavalry Combat*. Under his able guidance The Journal has grown and prospered. Its circulation has nearly doubled—this only by dint of hard work, wholehearted application, and many hours of persistent research in obtaining interesting and instructive material.

Colonel Jacobs has been relieved as Editor of The Journal and ordered to duty with troops as Chief of Staff of a division.

The officers, Executive Council, and members of The United States Cavalry Association extend to you, Colonel Jacobs, our sincerest appreciation of your outstanding accomplishments and our heartiest good wishes for success in your new assignment!

The New Broom

It is an old custom in journalism for the new incumbent to announce a new editorial policy as soon as the editor's chair has been occupied long enough to put bags in the trouser knees.

We beg to announce, therefore, that The Journal will continue under the same policy as heretofore. The editorial broom left by Colonel Jacobs is still strong and in excellent condition and if used with proper skill and ability should be able to keep the house of The Cavalry Journal in good order for sometime to come.

Under the pressure of censorship regulations, with which we are in hearty accord and complete coöperation, it will be necessary to curtail many articles of interest that possibly might be of aid and comfort to our enemies. We believe, however, that there is still a vast field of material from which to choose that will be both interesting and instructive. To this end attempts are being made (with some degree of success) to obtain authentic photographs and stories of the operations of cavalry and armored units on the Russian Front, as well as those in our sister republics to the south.

Inaugurated with this issue is a section devoted entirely to new ideas, with illustrations, that have been found successful in our own cavalry or armored force units. Individuals are invited to send in their ideas that have been used and would be of benefit to other units in the saving of man power, time, and the improvement in efficiency of our armed forces.

We shall also endeavor to obtain highlight news items from foreign battle fronts, whenever possible.

Modern Warfare?

One cannot pick up a current magazine or newspaper without reading some reference to "modern warfare." The expression is used indiscriminately by editors, news commentators, or anyone else who voices an opinion on the present world conflict.

War itself is of ancient vintage and dates back beyond the dark ages. War strategy, or the art of warfare is not new. Its fundamental principles have changed but slightly down through the ages. It is in certain details of the tactical employment of troops wherein there lies the modernization. New implements and new inventions that overcome distance on the ground or in the air, increased accuracy and distance in arms and munitions, and the addition of thousands of accessories of benefit to the war machine—all tend only to alter the *details* of tactical employment. The basic principles of strategy, upon which the tactical foundation is built, remain but slightly changed.

To be sure, modern improvements have been added to the implements of war, but these remain only *vital accessories to the fact*. It still has been proven in this present war (and what is a better criterion?) that some of the "antiquated" methods of warfare are now being employed overseas and are contributing factors to the successes that have been accomplished.

Our own strategists should not totally disregard the experiences of the Russian High Command in their successful employment of mounted troops. A recent statement by Major General Obeckoff (See Page 7 of this issue) that the 1942 Cossack operations were modeled after the work of our own cavalry in the *American Civil War* should be given prompt recognition in the expansion plans of our war machine.

L'Envoi

This modern war is one of speed.
Of tanks and planes, there's crying need.
But let us ponder and beware
"The little horse that wasn't there!"

Addresses and A.P.O's

One-third of the subscribers to The Cavalry Journal are on the move—station to station; station to foreign service; merely routine changes.

Some wives have written in to say that their husbands have gone on "active duty—please discontinue The Cavalry Journal"; and others, "My husband has been assigned to foreign service. Please cancel." If The Cavalry Journal was ever of pleasure or profit during peace times, it will be an even greater pleasure and profit when it reaches you on foreign soil. Send us your A.P.O., c/o Postmaster, (.....), and wherever the U. S. mail is carried, your Cavalry Journal will be mailed to you!

Don't wait until the "last minute." If everyone waited, we could not possibly make the changes in time to catch the next issue. Send your new address at the time that you move. The Journal will take care of the rest!

Back Issues of The Cavalry Journal

Innumerable requests are received for back issues of The Cavalry Journal that *we cannot supply*. These issues contain reference material, technical data, photographs that today cannot be duplicated or published. So—if you are on the move or cleaning house—don't give your back issues to the junkman for scrap! Send them by C.O.D. express to our editorial offices:

The Cavalry Journal
1719 K Street, N.W.
Washington, D. C.

Don't Drop That, Sam!

We need them! The following specific issues, now extinct, are particularly desired:

March-April, 1942

July-August, March-April, and January-February, 1941.

November-December, July-August, 1940.

September-October, July-August, 1939.

July, 1923.

If you have these particular issues and have no further use for them, send them in. They will help a research laboratory, a library, or the Headquarters of some military organization.

Will you please make a reconnaissance, then carry out the mission? It will be appreciated we assure you.

The Locators

Under the auspices of the Women's Activities Group, at Fort Leavenworth, Kansas, a file to compile and furnish information about the addresses of Army officers' wives has been established.

The service is without charge, but anyone requesting information about any officers' wife should use a self-addressed penny postal and place on the reverse side the name of the person, whose whereabouts is sought, together with her first name, husband's name and rank.

Coöperation of officers' wives is sought, so that the files may be kept up-to-the-minute. Please send your name and address, as you wish it to appear in the rec-

ords, and also the rank and name of your husband, as given in the Army Directory.

Watch this publication, too, because it is giving us space that is valuable. Start right away, and see if you know where any of the following are:

Mrs. Sadie Pratt, wife of Major General J. Conger Pratt, recently stationed in the Philippines; Mrs. Clifford Bluemel, wife of Brigadier General Clifford Bluemel; Mrs. Avis McBride, wife of Brigadier General Allen C. McBride; Mrs. Helen Carroll, wife of Colonel Percy J. Carroll (Med); Mrs. Ann Bediger, wife of Colonel Sam Bediger, F.A.; Mrs. Gladys Collins, wife of Brigadier General J. Lawton Collins, Inf.; Mrs. Mary Belle Martin, wife of Colonel Robert N. Martin; Mrs. Rilla Horton, wife of Major Thomas Horton, QMC (mother lives near Lexington, Ky.); Mrs. Janer DeWitt Slauson, wife of Lieutenant Colonel Kingsley W. Slauson, late of Hikham Field; Mrs. Harry S. Tubbs, wife of Captain Tubbs, CAC; Mrs. Jack M. Schwartz, wife of Lieutenant Colonel Jack M. Schwartz; Mrs. Howard Smalley, wife of Captain Howard N. Smalley, of Fort Custer; Mrs. Eugene Ridings, wife of Colonel Ridings; Mrs. W. K. Stennis, wife of Major Stennis, CAC; Mrs. Joseph P. Kohn, wife of Colonel Kohn, CAC; Mrs. Paul C. Davis, wife of Captain Davis, CAC; Mrs. J. Scott Kurtz, wife of Captain Kurtz, Inf.; Mrs. Kathleen Hoffman, wife of Colonel Robert Hoffman, Inf.; Mrs. Olive Reinhardt, wife of Colonel George C. Reinhardt, CE; Mrs. George K. Withers, wife of Colonel Withers, CE; Mrs. Joseph W. Cox, Jr., wife of Colonel Cox, CE; and Mrs. Vivian Bonning, wife of Major Edward A. Bonning, FA.

Addresses are furnished upon individual request only, and no lists are available for solicitation.

The Locators' address is P.O. Box 537, Fort Leavenworth, Kansas.

Seventh Annual 100-Mile Trail Ride of the Green Mountain Horse Association—September 3-5, 1942

AT the spring meeting of the Green Mountain Horse Association, which was held in Rutland, Vermont, on Memorial Day, it was decided that the 100-Mile Trail Ride should be continued.

The 100-Mile Ride is considerably different from an ordinary horse show as two of its chief objectives are to stimulate interest in breeding and to determine the type and breed best suited for saddle purposes.

In connection with the 100-Mile Trail Ride, a school of instruction for civilian mounted defense groups will also be carried on. A ride similar to our 50-Mile Pleasure Ride of former years will be on the program but will be in the nature of a schooling period for mounted patrols. It is hoped that a large group will ship or ride in their horses to participate in this school. Cross-country rides will take place in the morning and the afternoons will be devoted to classes. These classes will include instruction in transportation of injured persons by means of horses, fire control, pack tripping, map reading, orientation, and much other useful information, and we feel it will be very interesting to all participants.

The course will be over some of Vermont's most beautiful riding trails, with the finest footing to be found anywhere. There is a great variety of going, from long level stretches where brisk trotting can be indulged in to stiff climbs where the condition of the horse will be tested.

The ride is not planned as a horse-killing event. We do not want it so tough that only professional riders and horses with months of conditioning can enter. Our purpose in laying out the course and conducting the ride is to have it severe enough to test the soundness and fitness of an ordinary good saddle horse that has been intelligently conditioned and ridden. We feel that any good riders who will spend a month or six weeks in conditioning his horse and who has a sound horse to begin with, can enter this ride and give a good account of himself. Do not attempt the ride, however, if you are not able to get your horse and self into proper condition. It would be an unpleasant experience for you and might do your horse a great deal of harm.

Army Emergency Relief

Army Emergency Relief has been organized to give speedy financial help and other assistance to all soldiers and their dependents who *deserve* it—whenever and wherever such help is *needed*.

In proper cases, money will be advanced. In other cases, medical care, food, fuel and clothing will be furnished.

Soldiers and their dependents may ask for help at any Army post, camp or air field—or at any Red Cross Chapter, where full information will be available.

Dependents applying for assistance must give name, grade, serial number, organization, station or last mailing address of the soldier under whose name they are applying for aid.

The Russians Had a Word For It—Cossacks!

To the Graduating Class, U.S.M.A., 1942

Your utmost endeavor, backed by high and unselfish purpose, will be required to bring this struggle to a triumphant conclusion. No compromise is possible, and the victory of the democracies can only be complete with the utter defeat of the war machines of Germany and Japan.

—Extract from address by General George C. Marshall

A FEW years ago the pseudo military experts were vociferous in their controversy of the doctrine of Marshal Foch who insisted on attack as the solution of almost all tactical problems. The Marshal was scored for the great losses which some of his ineffectual attacks brought about. Now the same kind of writers are yelling *for* the attack—the offensive, as the only means by which battles and wars can be won. The truth is that the art of warfare consists in the *proper combination of attack and defense*. The attack is the ultimate objective, but a strong defense in one locality is the firm base upon which is built the possibility of attack in another locality.

It is a principle which must apply to all strategy as well as tactics. It is perfectly true that we must eventually take the offensive before we can hope to win a war, but in the very act of seizing the initiative and taking the offensive we must also take defensive measures to hold certain localities as bases from which we may launch our attacks. Of course, from a purely tactical standpoint, there are some exceptions to this rule, as when a comparatively small force makes an all-out attack without holding out a base of supporting fire or even a reserve. Such action applies principally to small isolated forces which for the time being are not tactically dependent upon any other force. It would apply to desperate situations in which a force attacks in order to escape encirclement.

Almost always, however, a part of any force acting offensively must hold while other parts advance to attack. This holding may be done by actually advancing the holding force to attack and thus hold the enemy in position while the main attacking forces envelope the enemy or attack elsewhere. Frequently, in a war of movement, and when the enemy launches an attack upon us, we hold off that attack by defensive measures in that locality while we move other forces to the counterattack.

This principle is applicable, also, to the discussions that we hear about the organization and equipment of our antitank units.

If the enemy attacks with armored forces, we attempt to hold him off with antitank guns and artillery; and we counterattack on his flank with our own armored forces supported often by large masses of our infantry for which free lanes or avenues are thus opened up for advance against the enemy main forces. We must know, therefore, not only how to attack and how to defend, but also how to employ the proper combination of both.

All large units of infantry or cavalry must have, as a component part of such units, an adequate number of antitank battalions or squadrons. Those must be numerous enough to protect the troops against attacks by hostile armored forces without having to call upon our own armored forces to repel such attacks. Our own armored forces are thus released for offensive attack missions sufficiently separated from, but in coöperation with, our infantry and cavalry forces.

In battle, our reserves must be composed of all arms, including armored forces and antitank forces.

When our armies are on the defensive the tactical disposition of our armored forces is in reserve, at least temporarily. If the enemy armored forces are much larger than our own, we must rely on antitank units to break up the attack of hostile armored units and then counterattack with our own armored units. To hurl our own armored units originally against the enemy armored force in attack is a mistake. Not until our antitank guns have been fully used to cripple the enemy tanks should our own tanks go in to meet them. It is the same principle that we use in a cavalry attack when, first of all, we use our artillery and machine guns against the enemy and then attack him by movement of maneuvering forces to a more vulnerable spot. In a battle in which armored forces are opposed to each other the loss in tanks is very great. They are not easily replaced on the immediate battlefield, even if there should be plenty of them in the factories and depots at home. We should endeavor to use our tanks where they can do the most good with the least loss to ourselves. Infantry continues to be the main battle force of all armies. Until our enemy infantry has been equipped to make a sure and certain defense against tanks, it is this infantry against which our armored force attack should be directed.

In offensive operations our armored forces will be useful in making wide turning movements with the pincer-like maneuvers that have been effective in the German army. This use of our armored forces will not be possible if they have to remain back in position to guard our infantry from hostile tank attack. In the early part of this war the Germans were not bothered by such considerations because their enemies had very few armored troops and the infantry of their enemies had no effective antitank forces to protect them.

Antitank units must be very mobile so as to place themselves quickly in position to oppose hostile tank attacks, but the main use of antitank guns is defensive in nature although their fire is used to support an attack against armored forces.

We must produce enough powerful and effective antitank guns organized into a sufficient number of antitank units to get the jump on our enemies. Then our armored forces will be able to carry out their most useful missions. Of course, if our enemies do the same

thing, it will be a question of who has the most of everything needed by an army, and of the skill, courage and fighting spirit with which these things are handled.

It is not intended to contend that antitank units will be a perfect defense against an armored force. If they were, there would be no use for an armored force. In open warfare of movement, there is no perfect defense against any kind of troops. There are too many intangible factors to consider. Infantry and cavalry divisions, however, properly supported by antitank units, have reasonable chances, and at least would prevent the enemy armored forces from running wild as the Germans did in France in the year 1940.

Infantry remains the main fighting force of every army, as has been demonstrated in every campaign to date. As long as there is infantry there is need for cavalry. This has also been demonstrated in every campaign. There have been campaigns without cavalry, but the need for it was present although it was not available.

There is more and more news coming in of important exploits of the Russian cavalry. Unhampered by any motor vehicles, it moves across country with its accompanying weapons and does not hesitate to engage any type of German troops including armored forces. In fact, regiment for regiment it claims to be able to handle armored forces, and has frequently done so with success. Undoubtedly this success is due to the skilful use of terrain and the proper handling of its antitank units. Its antitank guns are drawn by horses and so are its artillery guns. The Russian cavalry does not believe in having any motor vehicles whatever in its organized equipment except supply trains which may be drawn from a pool in the army or army corps to which it may be assigned or attached. This accounts for its great mobility across any kind of country.

The Germans, according to recent reports from the Russian Front, are now using cavalry in formations as large as a brigade or division, to counter against the continued attacks of the Cossacks.*

*EDITOR'S NOTE: See news item, page 21.

The Air-Rifle Mount

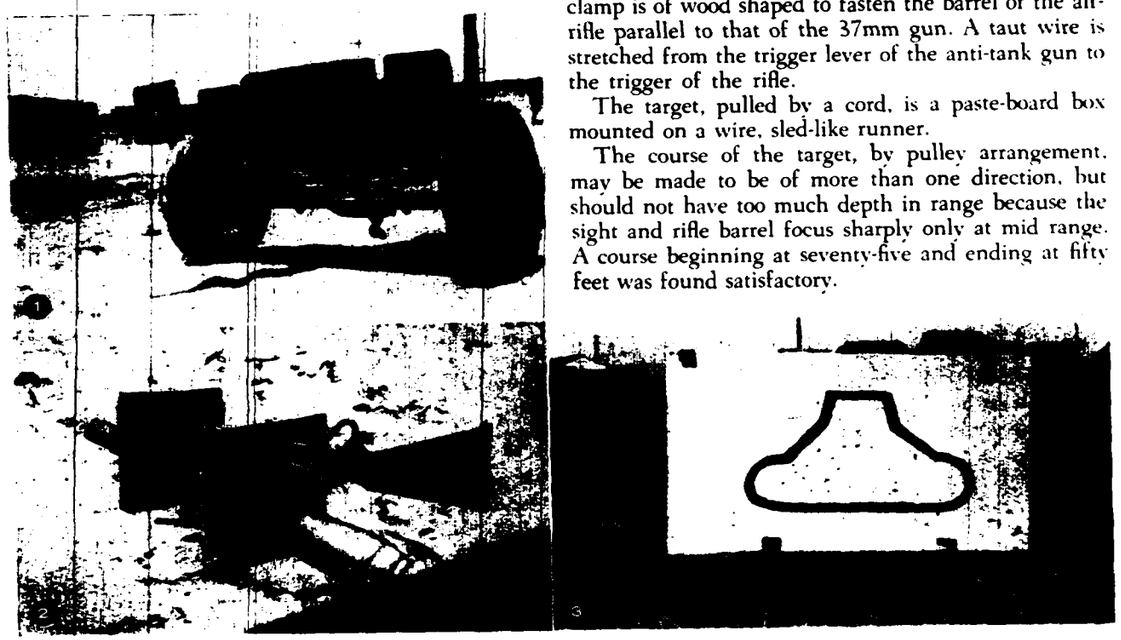
By Lieutenant Paul G. Skowronek, 113th Cavalry

THE air-rifle tracking-training mount here described is best employed as a step preliminary to sub-caliber ball ammunition firing. It can be used in troop training areas, requires little supervision by commissioned officers, and makes the initial aiming, traversing and elevating practice much more interesting than the usual "dry run." The benefits derived from training with this device more than warrant the small expenditure for equipment.

The rifle is of standard design with a forced feed—necessary because of the fixed, inverted position. The clamp is of wood shaped to fasten the barrel of the air-rifle parallel to that of the 37mm gun. A taut wire is stretched from the trigger lever of the anti-tank gun to the trigger of the rifle.

The target, pulled by a cord, is a paste-board box mounted on a wire, sled-like runner.

The course of the target, by pulley arrangement, may be made to be of more than one direction, but should not have too much depth in range because the sight and rifle barrel focus sharply only at mid range. A course beginning at seventy-five and ending at fifty feet was found satisfactory.



1—On 37mm gun. 2—Method of clamping on 37mm gun barrel. 3—The target.

Argentine Cavalry*

IF one views as a whole the picture presented by the topography of Argentina—the great extent of her territory, her vast plains and prairies, her temperate climate, her great wealth in livestock—and thinks also of the natural bent of her people toward the simplicity of country life, it is not surprising that in this land, the fame of whose "men on horseback" is well known, cavalry has played an inestimable rôle in the struggles for the liberty of Argentina and that of her sister American lands.

It may be said that authentic Argentine cavalry was born in 1812 with the creation of the Regiment of Mounted Grenadiers by Lieutenant Colonel D. José de San Martin, later Liberator of Chili and Peru. This unit, a model of discipline and organization, covered themselves with glory in the numerous combats and battles in which it was their fortune to participate. It is the only unit in the Argentine army that even today preserves the traditional colorful uniform designed by the organizer of the unit.

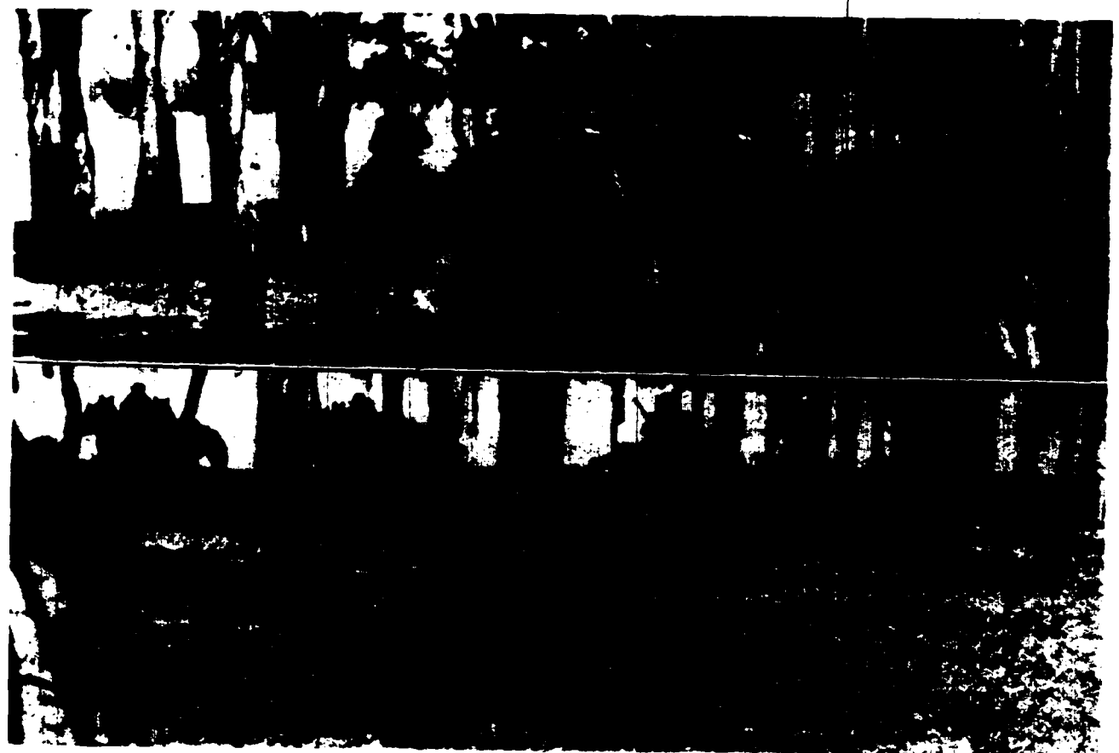
Later the Argentine cavalry participated in the extensive internal struggles that ended in national unity, and in the campaigns against the Indians, carrying their arms from the spreading *pampas* to the first spurs of the great range of the Andes, establishing the sites of communities and bringing vast regions of the country under civilizing influences.

Everywhere in Argentina one sees in the squares equestrian statues of heroes. It might be said that the Argentine state was built from horseback by those warrior *gauchos*, who have appeared since the beginning of her history, reining their pawing chargers in the dust of the limitless plains, filled with liberty and glory.

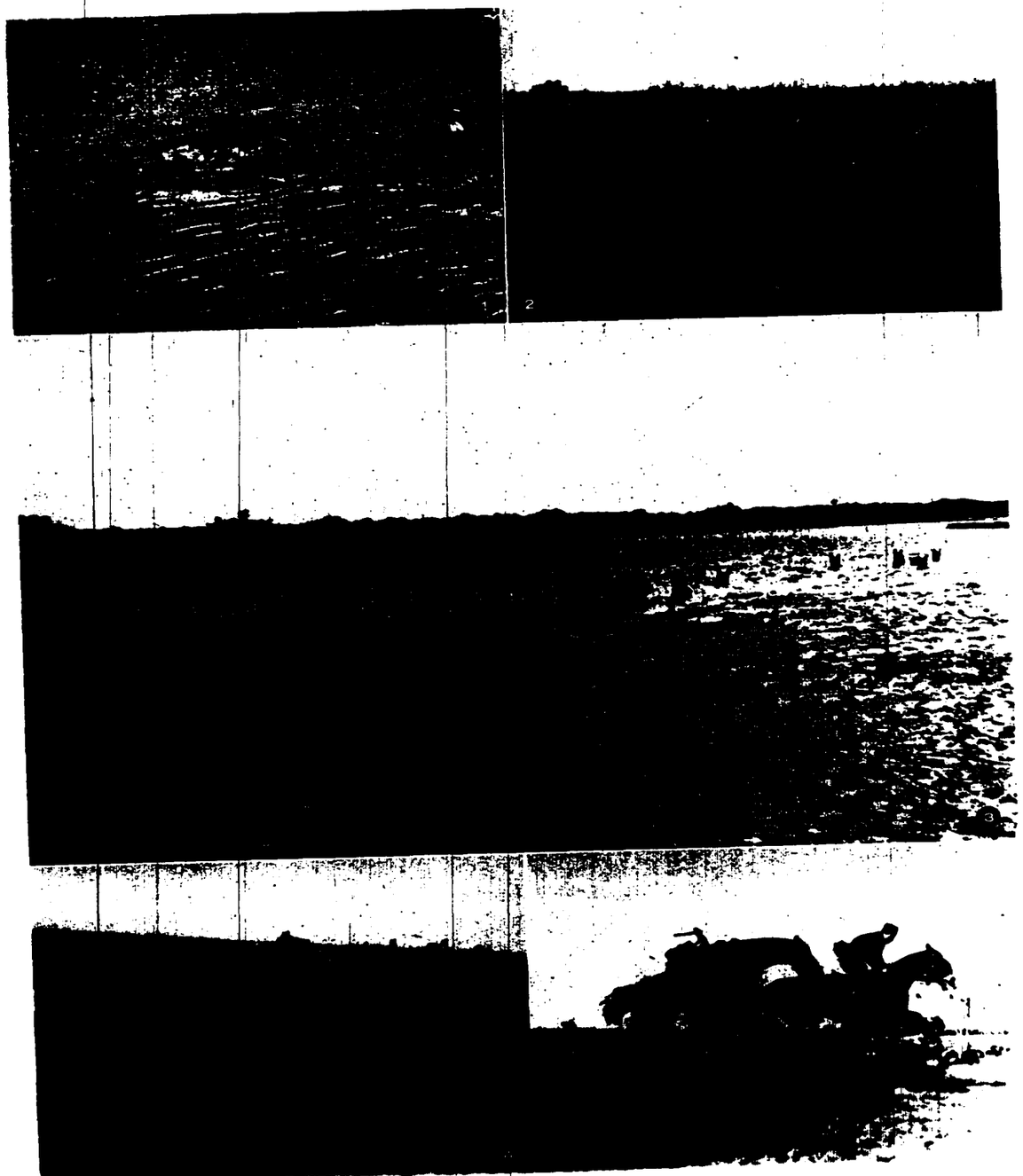
And so the modern Argentine cavalry lacks neither a glorious tradition nor personnel of a high order, since as we have seen, this country has an inexhaustible source of born horsemen, who love danger for its own sake and are inured to hardships of life in the field, with its adventures, its vigils, and its triumphs.

And neither do modern commanders lack examples of born cavalry leaders: San Martín, Lavalle, Necochea,

*Compiled by the General Staff, Army of the Republic of Argentina.



Top: Moving up to position. *Bottom:* Dismounted action.



1—Crossing a stream; individual pack being towed. 2—Patrolling across swampy terrain. 3—Swimming across a river. 4—Moving across swampy terrain. 5—Pack horse and trooper taking an obstacle

Stream crossing.

Lamadrid, Paz, Güemez with his famous *gauchos*, etc., all of them possessed of personal courage verging on rashness, bold and fearless in the irrestible force they knew how to impart to their furious charges that have become legends in the country.

Today, other than the traditional *élan* of that arm, there is little that the modern Argentine cavalry preserves of those former units armed almost exclusively with sabre and lance for combat at close quarters. Without losing its characteristic mobility, it possesses at the present time great fire power and shock force that enables it to take a successful part in the actions of modern war.

There is in Argentina a Chief of Cavalry of the Army who represents higher authority within the branch and is the sole advisor in all matters connected with the organization, instruction, and war preparations of the troops and services of the cavalry.

Under his control are the three divisions of cavalry which exist at the present time and also a regiment of School Cavalry, in which are conducted tests and experimental training of a special nature, in order to try out and approve matters of organization and instruction.

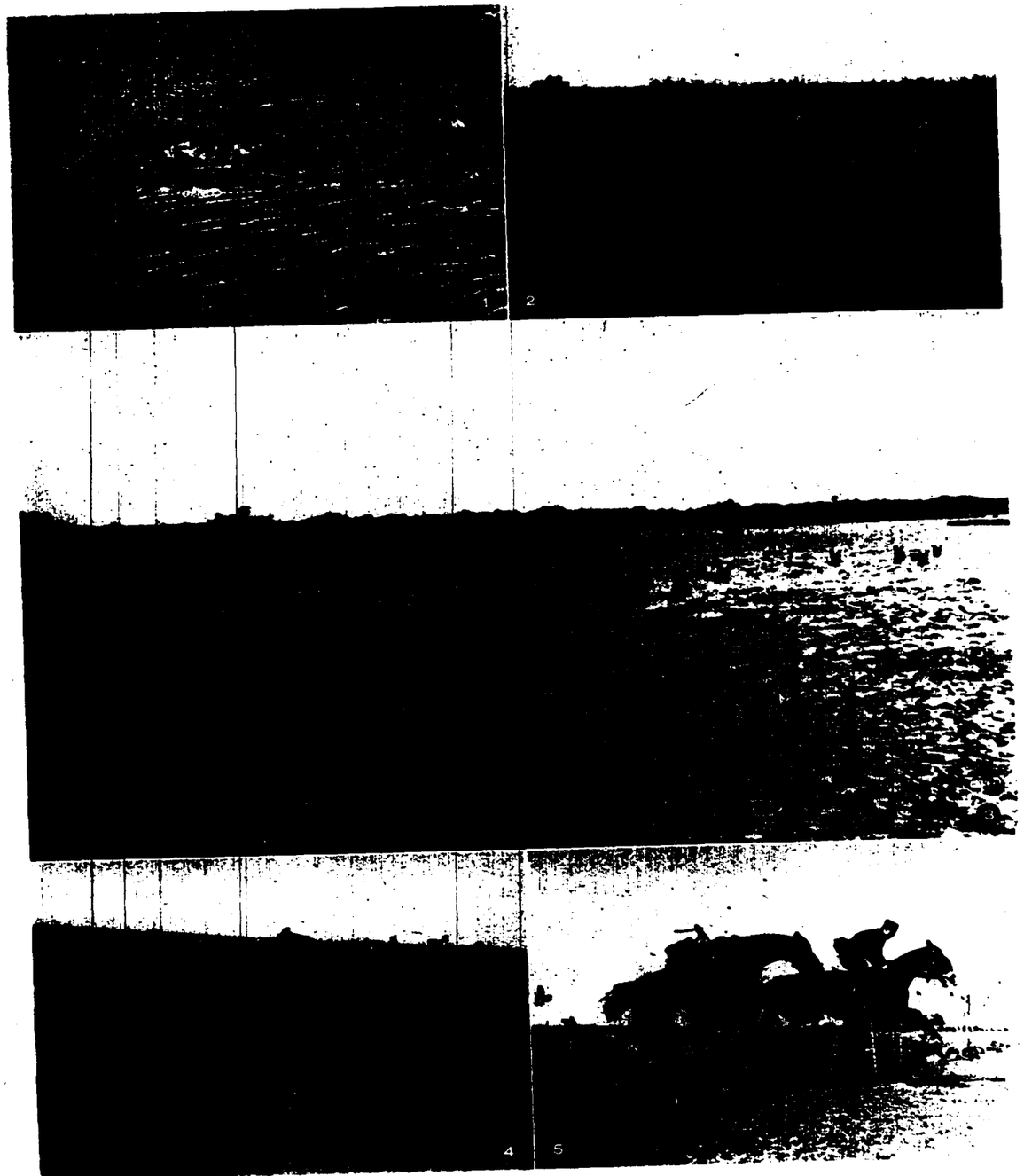
In time of peace each division contains brigades of several regiments each, artillery, signal troops, engineers, and the necessary services in the form of cadres of cavalry units later to be organized.

There are in all fifteen regiments of cavalry distributed in separate garrisons throughout the country, in addition to the regiments, each division of the army has under its orders its own detachment of mounted scouts, especially organized for the mission they have to accomplish.

To facilitate instruction, the increments of conscripts for the cavalry are drawn from the numerous horsemen of military age, who serve for one year. The year is divided into four periods: individual training, training by troop, training by regiment, and concluding exercises or maneuvers. The concluding exercises are held each year in the neighborhood of the garrisons; on certain occasions combined maneuvers are held, in which there is intensive practice of the functions pertaining to the arm.

Particular attention is paid to the preparation of the groups of officers and non-commissioned officers in order to qualify them for the discharge of their respective duties. The officers are enrolled in special courses whose purpose is to prepare them for the command of larger or smaller units according to their rank. The units follow also a plan of instruction of officers for gradual physical development, they participate in exercises for conditioning and developing agility, such as equitation, hunting, polo, swimming, fencing, driving motor vehicles, etc.

The annual contests of [illegible] consist of [illegible] jumps, high jumps, and polo being [illegible] in the [illegible] of [illegible] and individual [illegible]



1—Crossing a stream; individual pack being towed. 2—Patrolling across swampy terrain. 3—Swimming across a river. 4—Moving across swampy terrain. 5—Pack horse and trooper taking an obstacle.

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The annual contests of "Officers' Mount" classes, miscellaneous jumps, high jumps, and polo, bring together in the city of Buenos Aires teams and individual riders

from the divisional meetings, and exhibitions of very high quality are likely to take place in these gatherings. For example, in the contests of 1941 there were jumps of almost seven feet, and polo teams were formed of handicap of more than twenty goals.

Separate from these contests, the Argentine military riders won in 1940 over their Chilean comrades, and there is now being formed in Argentina a team representing the army which will participate in the international horsemanship contests which will be held shortly.

In the matter of mounts furnished officers and troops, it is enough to say that there are eight million horses in Argentina, commonly of excellent selective breeding, to understand that in this country the problem of obtaining proper mounts does not exist. Each unit receives the type of horses that it needs: saddle, light or heavy draft, pack.

Everything concerned with the improvement of strains and the breeding of horses in the country, and also matters connected with encouraging equestrian activities, is centered in the Remount Headquarters of the army, at the head of which is a cavalry general. This headquarters publishes two periodicals to guide horsemen and breeders of the entire country.

The Spanish Language*

THE beginner in Spanish is often confused by would-be helpful friends who assure him, quite mistakenly, "there's no use in learning Castilian, it isn't spoken in South America, and even in Spain there are different dialects among the Provinces." It is only necessary to reflect that all European languages possess regional variations, but that each has a master tongue, as it were, understood throughout the nation. The dialect of the Yorkshire peasant may be almost unintelligible to the visitor from the United States, and differs greatly from the vocabulary and pronunciation of the Highland Scot, yet Scot, Yorkshireman and New Yorker read the same version and comprehend Oxonian speech. German and French have similar variations. Ancient Greece spoke various dialects, all of which were Greek, but through force of circumstances Athenian triumphed over Doric, Eolic and Jonic and became the official and literary vehicle of Greek thought. Similarly, all of the languages spoken in Spain are Spanish, and apart from the Basque tongue, there are only minor and local differences between the colloquial tongues of Galicia, Asturias, Leon, Castilla, Murcia, Valencia, etc. In Cataluña and the Balaearic Islands, a bilingualism prevails, but Catalan and *Mallorquin* exist beside Castilian, and do not replace it. These tongues possess many Spanish words and their origin is common. The methods of speech in all parts of Spain, for the Basques are also Spanish-speaking, had a common basis in Celtiberian, and have been exposed to Semitic (Phoenician, Carthaginian, Arabic), Greek, Latin and German influence, by invasion, in greater or less degree. Latterly there has been an infusion of French and English words and roots, though these often duplicate existing Spanish forms. The more *gauche* of these alienisms are currently the subject of a campaign of eradication, as is to be expected during epochs of nationalistic exaltation. In any case, the regional differences, which needlessly worry the beginner in Spanish, are slight and consist only in phonetic modifications, reduction of dipthongs, the termination of derivatives and forms of the definite article. The Spanish language, classified in idiom, dialects and subdialects, reflects three major epochs of evolution. The first embraces the dawn of history and ends with the close of the Second Punic War (206 B. C.) when the Carthaginians withdrew from the Peninsula. The second period includes the coming of the Romans in the same year and extends to the fall of the Visigothic Kingdoms in 711 A.D. The third epoch, opening with the Moslem invasion, comprises medieval and modern Spain. Through political evolution, Castilian became the official language of Spain and thus of Spanish America. The scholar may delight in the regional variations, the student can confide in his knowledge of Castilian to carry him safely through all commercial and social contacts.

The Roman authors Strabo, Julius Caesar, Pliny, Pomponius Mela and Ptolemy have left extensive records of the language of aboriginal Spain, Celtic, which all Roman authors agree was spoken throughout the Peninsula, Strabo commenting that the frequent emigration of the Celtic tribes from point to point in Spain made for a unified language. Long before, in 1600 B.C. the Phoenicians had established the first of their "factories" in the Balearic Islands and near Cadiz; the Greeks had settled by 900 B.C. on the Mediterranean litoral and in the northwestern portion of the Peninsula, embellishing the native tongue with their linguistic introductions, which may yet be traced in the living language. The Romans found the Celtiberians possessing a grammar, dating back half a millennium, evidence of a high mentality and long settlement. The Romans enforced the use of Latin for all official intercourse, but

*Courtesy, Spain magazine

their tongue possessed two distinct forms, literary and official, and the popular. The latter was very similar to Iberian, and to further contacts a "Romanic" vocabulary came into being, composed of both languages, which may be considered the source of the new Spanish language. The Visigoths, who were a conquering stratum of warriors, but not great masses of settlers evicting the first comers, were absorbed linguistically by the Romanic language, the less difficult since they already possessed many words of Celtic origin. St. Isidro of Sevilla wrote in his *Etimologias* (early seventh century) that the language of Spain was modified Latin, with Greek as a second language along the Mediterranean coast, and the Roman-Gothic dialects in the remainder of the Peninsula. The Arabs brought a strong cultural influence as their contribution to the formation of modern Spanish, with their translation of Greek philosophy and grammatical studies. The eighth century, which showed notable transition in the popular tongue in the southwest of Spain, also witnessed the rise of Catalan-Provencal in the coastal areas of northeastern Spain and southern France which had been subject to Greek culture.

The ascendancy of the idiom of Castilla over its fellows in the other regions of the Peninsula dates from 1230, when by orders of King Fernando III the judicial code *Fuero Juzgo* was rendered into Castilian. Thereafter the tongue of Castilla became the official language and enjoyed the benefits of development in statecraft, literature and science largely denied the others. The first literary monument of Castilian is the *Cantar del mio Cid*, one of the great epic poems of all time (1140 A.D.). The Catalan language developed literature of its own, but the dialects of Spanish remained largely oral. Both Basque and Catalan as languages of the peasants of their regions have retreated before the educational inroads of Spanish, and official decrees require the use of Spanish in all official and religious ceremonies. The dates of appearance of Catalan and Portuguese can be relatively closely fixed; Basque on the contrary is one of the oldest of living languages, and there are authorities who trace a similarity to Etruscan, certain tongues in the Caucasus and even Japanese. Both Basque and Catalan were the objects of exploitation by separatist politicians during and shortly before the existence of the Marxist Republic (1931-36), attempting to make these ancient tongues the vehicles of their ambitions. Their attempts were rejected by the masses of the Basque and Catalan people and their disingenuousness may be gauged by the fact that leaders of the separatists who proclaimed a "Republic of Euzkadi" at Soviet bidding, were unable to speak Basque.

In the already celebrated year 1492 appeared the first "Grammar of the Castilian Language." In 1536 the Emperor Charles V of the Holy Roman Empire solemnly adopted Spanish as the language of imperial policy and diplomacy, in the presence of the Pope Paul III. In this period appeared Cervantes, whose only rival in the formation of a national tongue may be Shakespeare. In the sixteenth and seventeenth centuries Spanish exercised in Europe the literary hegemony surrendered by Italian.

When Columbus sighted the Indies, Castilian was already the official language of Spain but the dialects of the Provinces were still offering lusty colloquial competition. This produced an interesting result in the Americas. The greater part of the *Conquistadores* and their contingents were from southwestern Spain, Andalucians and Extremadurans, far outnumbering the Castilians in the first stages of the conquest and colonization. Call the roll of the Great Captains, perhaps unmatched in history. *Andaluces:* the three brothers Pinzon, Alvaro Nuñez, Juan Dias de Solis, Gonzalo Jimenez de Quesada, Pedro de Mendoza; *Extremeños:* perhaps the most illustrious of all, Hernan Cortés, Hernando de Soto, Francisco de Orellana, Vasco Nuñez de Balboa, the Pizarros, Pedro de Valdivia, Pedro de Alvarado. By the end of the sixteenth century Extremadura was almost depopulated, whole towns had emigrated to America. They brought with them their phrases and usages. There are eddies in languages no less than in rivers. In the mountains of western North Carolina and eastern Kentucky today one may encounter the tongue of Shakespeare a living entity; here and there in Spanish America, often in official phrasing and titles, occur reminders of the sixteenth century, though they have disappeared long since from the hills of Extremadura and the smiling *llanos* of Andalucia. There are slight differences in colloquial speech between Mexico, Cuba, Colombia and Argentina, as there are differences between the common usages of Maine and South Carolina. But throughout Spanish America, the written word is Castilian. Spanish America, indeed, has given the language its best practical grammar, that of Andres Bello, annotated by a fellow countryman, Rufino José Cuervo.

Spanish is one of the world's great languages, in every sense of the word. For music and sonorousness it has no rival, of the languages deriving from Latin, Spanish has achieved the widest digusion. After English, it is probably the idiom of greatest propagation. With its sister, Portuguese, Spanish dominates one continent and large portions of two others. Over one hundred million persons speak Spanish as their principal or only language, millions of others enjoy it as a cultural advantage or commercial necessity. From Lima to Madrid, Rio de Oro to the Levant and the Philippines, literally the sun never sets on the speech of Cervantes.

Why Not the Camera for Reconnaissance?

*By Captain Prentice G. Morgan, Cavalry**

EVERYONE is aware of the value of the aerial camera and the extensive use to which it has been put by all modern armies, but how much thought has been given to the possible value of cameras rightly placed and used in tactical elements of the ground forces?

If the Tables of Basic Allowances are any criteria there has been little if any thought of using the camera as a tactical instrument. In the TBA for an armored division, for example, one camera is allocated to the Engineer Battalion. It is an excellent instrument for press work, but too cumbersome and bulky to be considered for efficient use in the field.

The ideal camera for use in the field is the 35mm or minature camera. The lack of interest in this instrument, however, is shown by the fact that no miniature cameras are listed in the Signal Corps catalog. Other than the Speed Graphic, the only instruments listed there are copying and identification photo cameras.

Miniature cameras in the hands of reconnaissance and engineer units, be they horse, foot or mechanized, would seem to have an easily demonstratable value.

Let us briefly examine the capabilities of the equipment available today on the commercial market. In a compact package weighing little more than a pound and not more than eight inches in its greatest dimension, we have a precision instrument capable of recording an almost endless series of pictorial records of anything which a man can approach in daylight. Details of terrain, of bridges, roads, fords and any other military features are open to its instantaneous sight and permanent memory. Equipped with a telephoto lens it is capable of peering into enemy territory with a sight many times more powerful than the standard EE field glass or of exploring a feature of terrain too far off the route of reconnaissance to justify the sending of a patrol. And all this may be done in a fraction of the time necessary for a reconnaissance agent to get out his sketching materials.

With modern developing methods a series of pictures can be taken and be ready for use within an hour, the entire developing process being done in daylight and, if necessary, in a moving scout car or peep.

The necessary equipment for taking the pictures, developing the film and making the negative ready for viewing could be assembled in a case not much bigger than that in which a portable typewriter is carried.

Training personnel in the use of the camera need not be a difficult process if it is remembered that what is desired is not camera artists but merely soldiers capable of producing clear record shots. With intensive and thorough training almost any American soldier could be trained to use the camera and its accessories in from two weeks to a month, presupposing, of course, a well organized plan of instruction.

The circumstances under which the camera might be of value are numerous. Here are some of them:

1. Bridge and road reconnaissance.
2. Substitution for field sketches.
3. Use by scouts behind the enemy lines in studying the composition and strength of columns and identification of units and equipment.
4. Engineer reconnaissance for stream crossing operations, bridge buildings, entrenching and field fortification operations, including antitank installations.
5. Mine field reconnaissance.
6. Advanced aircraft landing field reconnaissance.
7. Recording of intelligence information through photographs of wrecked or captured enemy vehicles, weapons or dead.

Many other uses will readily suggest themselves and as a matter of fact any patrol or reconnaissance mission will be enhanced in value if pictures are used to illustrate the reports.

In numerous cases photographs will provide the commander of a large unit with his best substitute for personal reconnaissance.

What are some of the circumstances under which the camera might be of value? Here is an illustration of the use of the camera by a patrol: A patrol from the reconnaissance battalion of an armored division is given the mission of making a route reconnaissance in anticipation of a possible advance of the division. Specific information as to bridges, fords, roads and identification of the route is desired at division headquarters. Engineer personnel is engaged elsewhere and is not available for inclusion in the patrol.

The patrol, mounted in two, or three quarter ton trucks, and equipped with a miniature camera and accessories, starts on its mission before dawn. By daylight it is well on its way, and in country where enemy patrol

*Armored Force

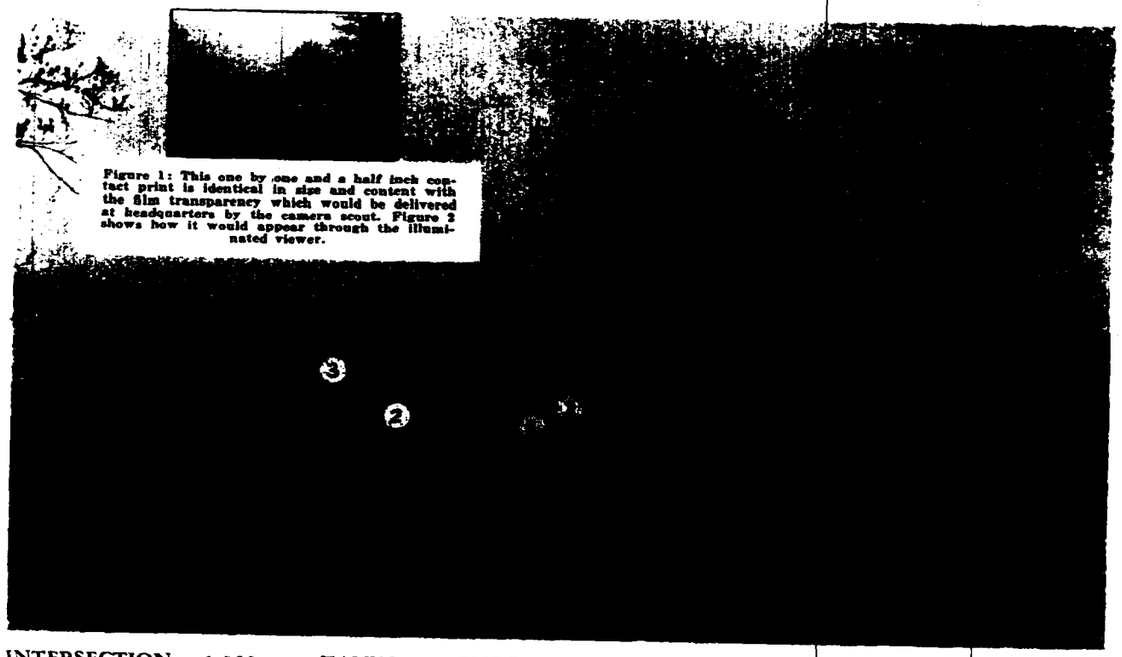


Figure 1: This one by one and a half inch contact print is identical in size and content with the film transparency which would be delivered at headquarters by the camera scout. Figure 2 shows how it would appear through the illuminated viewer.

INTERSECTION — 1,000 YARDS FROM CAMERA ③ | TANKS—150 YARDS FROM CAMERA ② | 50 YARDS FROM CAMERA ①

Figure 2, position 1: Picture taken with ordinary lens (50 mm). The ridge line behind the stump is 50 yards from camera. The tanks are 150 yards away. The road intersection is 1,000 yards from camera. This represents what would be seen when the miniature film transparency is placed in the magnifying viewer.

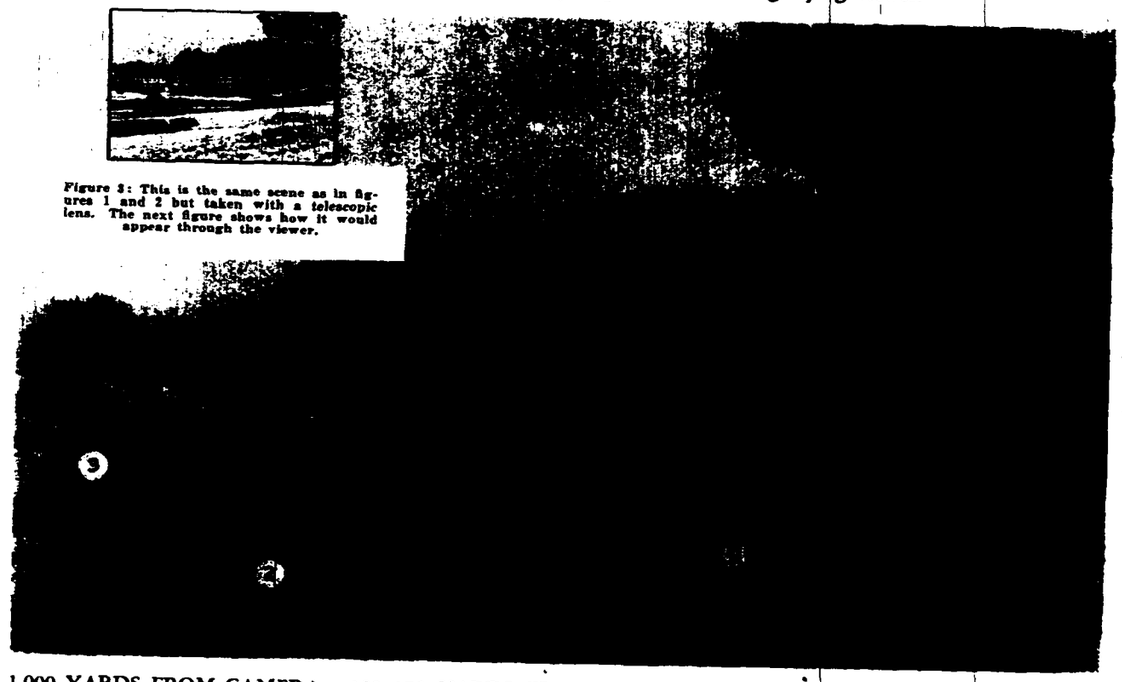


Figure 3: This is the same scene as in figures 1 and 2 but taken with a telescopic lens. The next figure shows how it would appear through the viewer.

1,000 YARDS FROM CAMERA ③ | 150–175 YARDS FROM CAMERA ② | 50 YARDS FROM CAMERA ①

Figure 4, position 1: Picture taken from same position as figure 1 but with telephoto lens with a focal length of 135 millimeters. Lenses up to 400 millimeters are available.

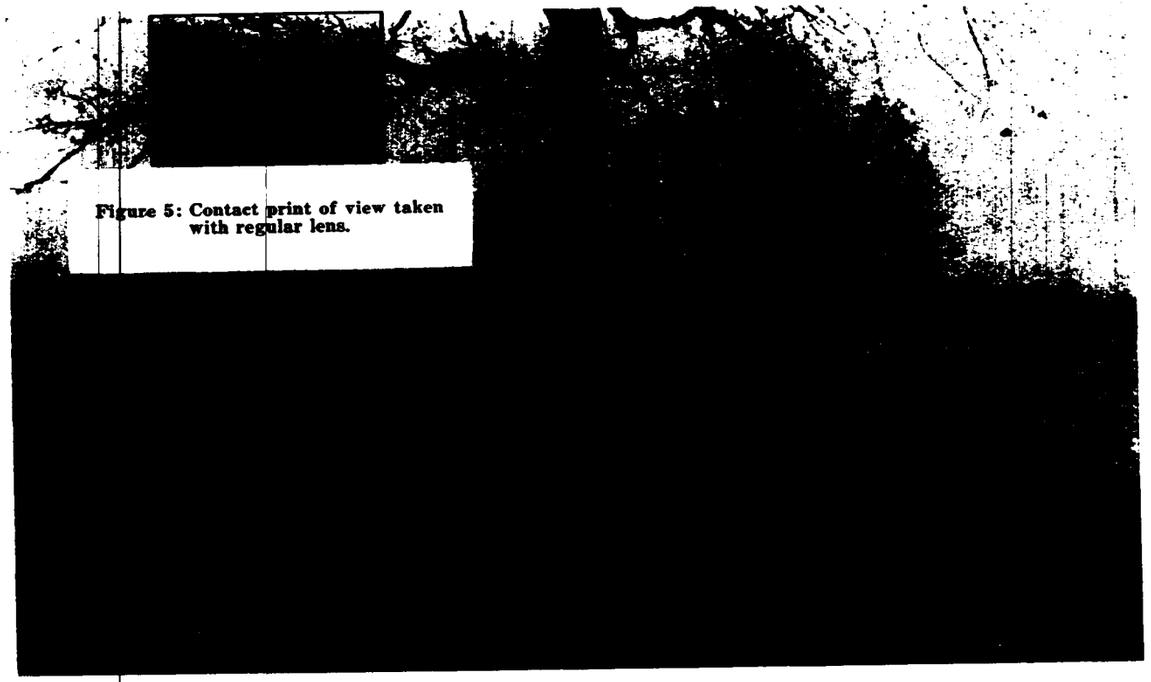


Figure 5: Contact print of view taken with regular lens.

INTERSECTION— 1,000 YARDS FROM CAMERA ③ TANKS— 150 YARDS FROM CAMERA ② TREE— 30 YARDS FROM CAMERA ①

Figure 6, position 2: Picture taken with ordinary lens. The tree is 30 yards, the tanks 150 yards from camera. This is how the one by one and a half inch film transparency appears through the magnifying viewer.

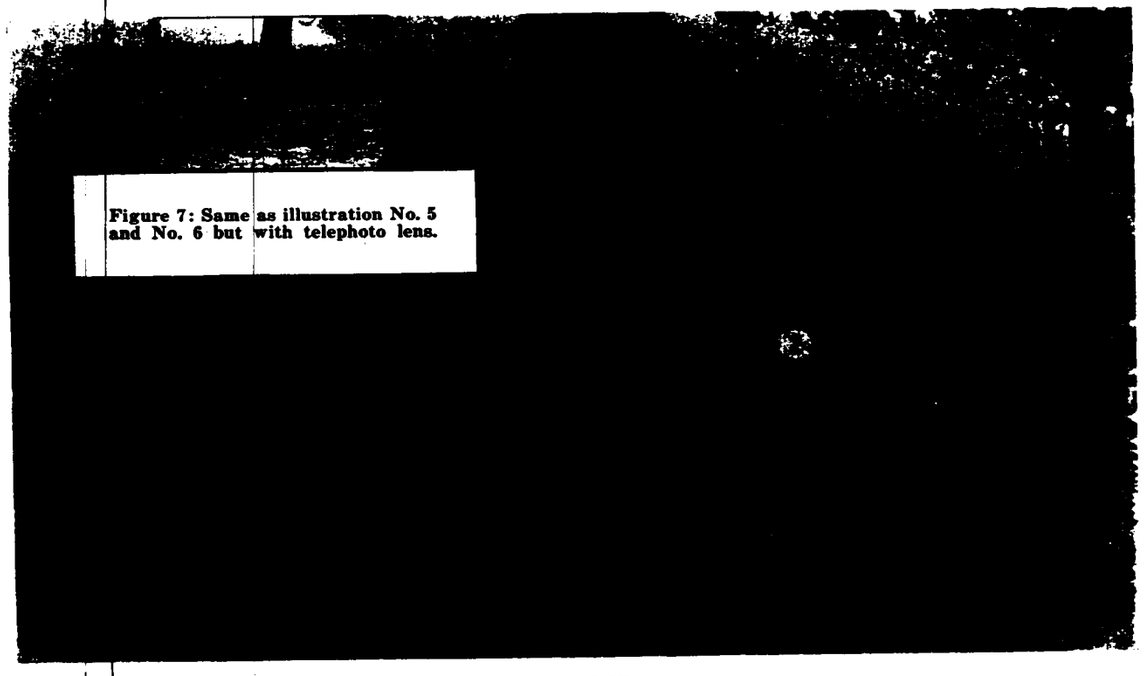


Figure 7: Same as illustration No. 5 and No. 6 but with telephoto lens.

TANKS— 150 YARDS FROM CAMERA ② TREE— 30 YARDS FROM CAMERA ①

Figure 8, position 2: Taken with telephoto lens from same position as figure 3 but with 135 mm. telephoto lens. Note the detail visible in tanks. With the 400 mm. lens magnification would be much greater.

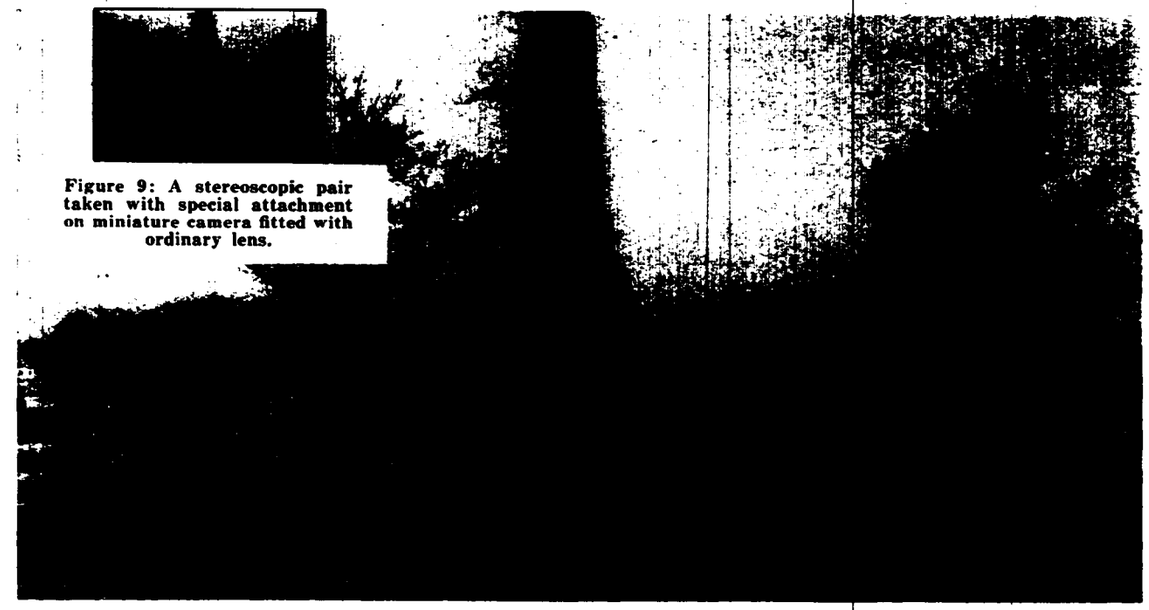


Figure 9: A stereoscopic pair taken with special attachment on miniature camera fitted with ordinary lens.

Figure 10: A stereoscopic pair. Viewed through an enlarging viewer this would appear as an enlarged, three dimensional photograph.

activity may be expected, but where no large forces are anticipated.

At 6:00 AM the patrol reaches a stream of considerable width and depth. Investigation shows that there is but one bridge across the stream in the immediate vicinity. This bridge has been partially destroyed.

The patrol leader believes the bridge may be readily made serviceable for the use of the tanks of the division, but not being an engineer, he does not know the length of time necessary or the materials needed. He summons the cameraman who in fifteen minutes has taken 36 pictures of the damaged bridge from every conceivable angle. While the cameraman is unloading the camera and slipping in a fresh roll of film, the patrol

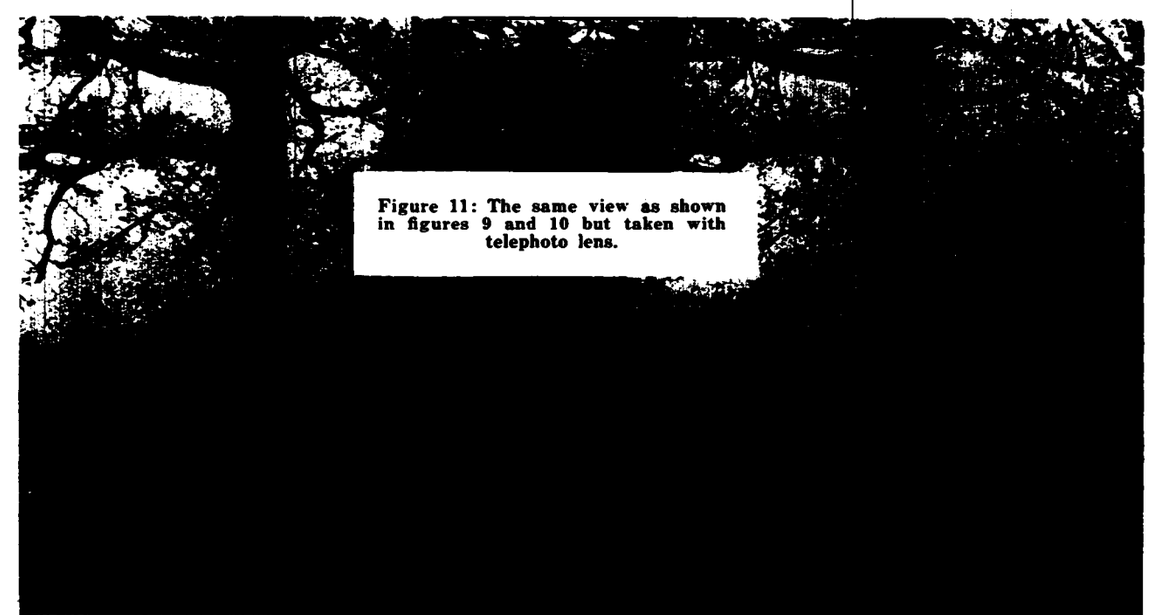


Figure 11: The same view as shown in figures 9 and 10 but taken with telephoto lens.

Figure 12: Stereoscopic pair taken with telephoto lens.

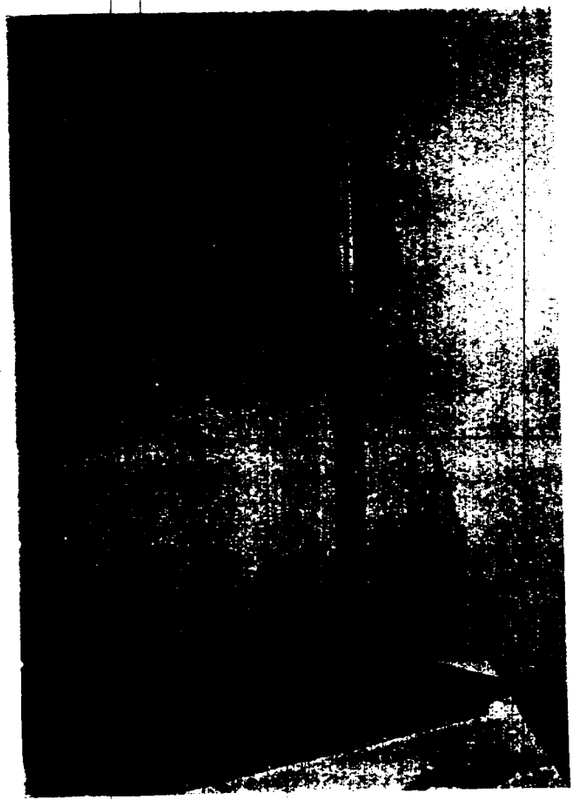


Figure 13: This is the enlarging printer used when prints are desired. Together with all necessary accessories and materials it could be packed in a foot locker. A dark-room tent would be needed.

leader writes a brief report to accompany the pictures. He decides the engineer officer will want the information and pictures without delay, so he immediately starts them back in one of the *peeps*.

Through the study of the photographs the engineer officer will be able to save much valuable time in estimating the extent of repairs necessary to make the bridge passable, and the size of the crew needed. Strength of bridges could also be estimated in a like manner.

With the remainder of his force the patrol leader turns upstream along a dirt wagon road in search of an alternate crossing or crossings. A mile up this road he comes to a narrow place in the stream. It seems as if a crossing could be made here, but the far bank is high and steep. How long will it take to cut the bank down? How many men will be needed for the job? Will it be possible to use *dozers*? The patrol leader does not know, but when the engineers see the pictures he takes they will be able to tell at once. A roll of film is exposed and the patrol continues.

Wherever there appears a terrain feature which presents a problem, out comes the camera and enough

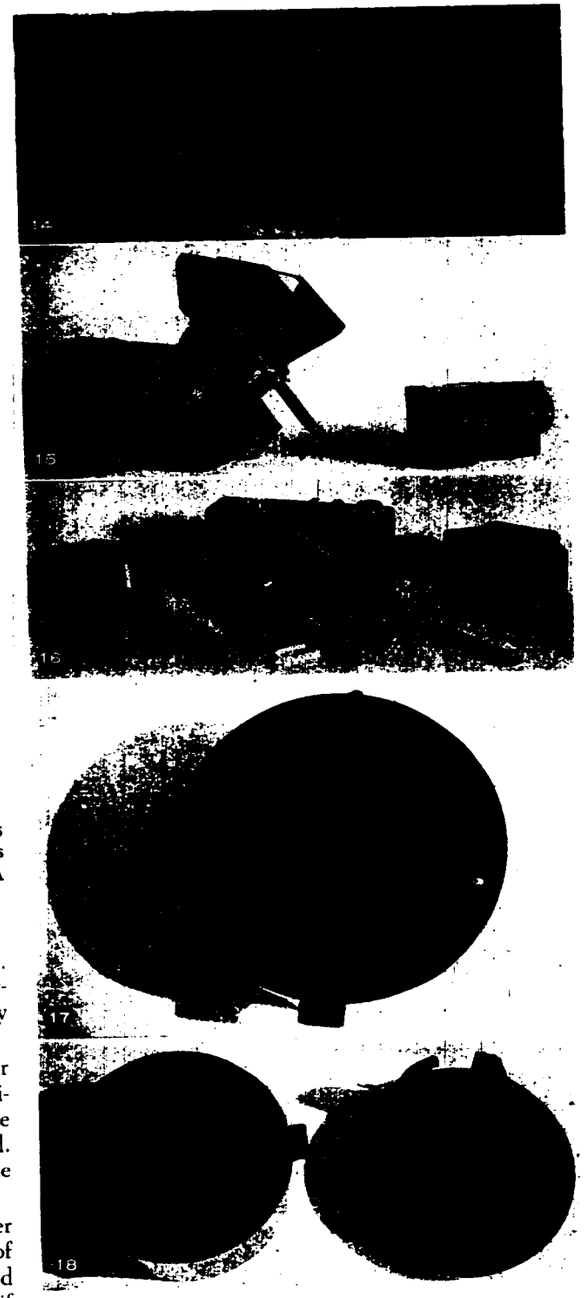


Figure 14: This is the camera in action with ordinary lens. Under combat conditions principals of scouting and patroling with proper use of cover would apply. Note small size of camera.
Figure 15: This is the camera fitted with stereoscopic device. To the right is the stereoscopic viewer. A magnifying viewer could also be used.
Figure 16: Stereoscopic equipment disassembled.
Figure 17: The developing tank. This, with a cloth changing bag and tubes of premixed chemicals is all the equipment needed to develop the films in the field. The tank is about five inches in diameter.
Figure 18: The developing tank disassembled showing interior construction.

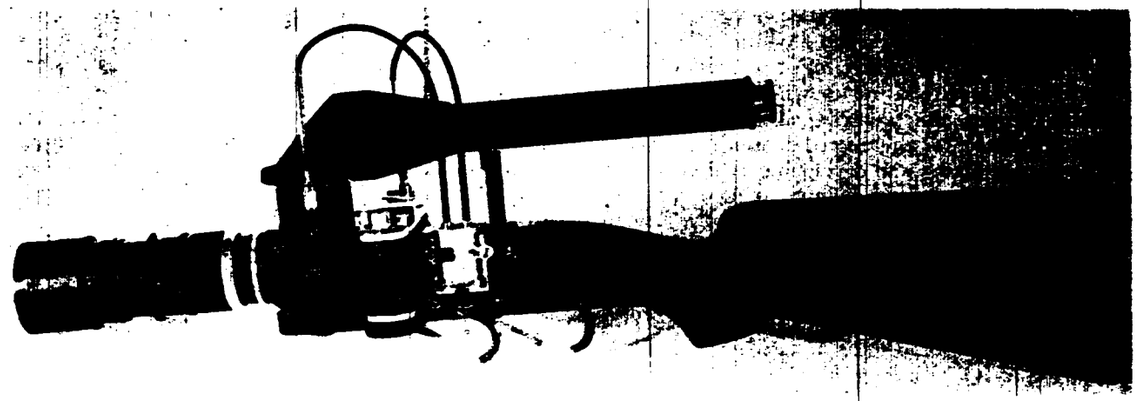


Figure 19: This is the camera gun fitted with the 135 millimeter telephoto lens.

pictures are taken so that the patrol leader is able to pass the buck back to the experts.

His next problem, however, is more difficult. As the leading car reaches the crest of a rise, the driver comes to a sudden stop and signals "enemy in sight." Through a break in the brush he has seen what appears to be a main highway with a sturdy, undamaged bridge across the river.

On the other side of the bridge are a half dozen enemy armored cars partially concealed. Farther down the road are several suspicious clumps of brush which may conceal antitank guns. The force is probably not formidable, but it is certainly too tough for this "sneak" patrol to handle. But the information is there for the camera to see. Quickly it comes into action, but this time a new technique is needed. There is no cover within 300 yards of the bridge and an ordinary camera shot from the patrol's present position would give only a nice picture for a rotogravure page in the home town newspaper.

So the cameraman takes from his kit a telephoto lens and what appears to be a carbine stock. Camera and lens, a lengthy affair, are fitted to the stock and the cameraman crawls to the edge of the clearing. Taking careful aim the cameraman covers the area with "fire" from his martian-like appearing apparatus. He pays particular attention to the bridge itself and to those suspicious-looking clumps of brush. Just for luck he also takes a few shots of the armored car crews. There have been rumors of a crack enemy armored division in this sector, and G-2 will surely be interested in those uniforms and insignia.

Slowly and quietly the patrol withdraws. It is time to head for home. An uneventful morning, surely, but everywhere the patrol has been it has obtained a permanent record of what it saw, and thanks to the magnification of the telephoto lens, some things it could not see.

A snap-on device is also available for the camera to permit the taking of stereoscopic pairs, highly valuable in that they present a three dimensional picture. This may be used with either the regular or telescopic lens and both the device itself and the stereoscope through which it is viewed is small enough to be held in the palm of the hand.

What of the developing and printing processes necessary to make these films available for use?

Developing may be done out of doors in daylight by the use of a light proof changing bag and a developing tank, both small and easily transported. The developing tank is about the diameter of a No. 10 can, and about half as tall. If necessary, the developing can be done on the move and in about an hour the film should be ready for viewing or printing.

With speed vital, it is probable that the pictures would not be printed. Reversal film, which yields a positive image on the film instead of the commonly known negative image would be used, and this could be viewed directly through an illuminated, magnifying viewer about the size of the issue canteen. This would magnify the image to show more detail than would be possible in an 8 x 10 enlargement. The illuminating element could be adapted to plug into any 6, 12, or 24 volt electrical system. It could be used day or night and inside any vehicle, including a tank, or in blackouts. Within 15 minutes after the film reached headquarters it would be ready for viewing.

Likewise the standard printing and enlarging equipment, which could be used when the time for this slightly longer process was desired, would be adapted for use on battery or Homelight current. All of the necessary viewing, projecting and printing and enlarging equipment could be carried in one or two foot lockers. Or a special photo laboratory truck could be provided if the use of the system justified additional motor equipment. Of the feasibility of the plan there is no question. The Army's experiences in battlefield photography during World War I, or to go even farther back, the success of the famous photographer Matthew Brady of Civil War times, prove that.

How much equipment should be carried and where, is always a vital question when anything new is being considered. This is a subject for experimentation, but considering the tactical use to which cameras would probably be put, the following allocation should be tentatively correct for an armored division.

The picture taking and developing equipment itself is small and compact. Each picture taking outfit should include a high grade 35-mm. camera of the Leica or Contax type which would be the backbone of the outfit. The telescopic lens and gun stock mounting would be essential to secure the full use of the equipment and would add little to either bulk or weight. Also included should be a rapid winder for the camera. This would permit the taking of a large number of pictures at almost the speed of a motion picture camera, and would be greatly to be desired in situations where the photographer might come under enemy fire. There should also be the necessary range finders and exposure meters, and filters for using infra-red film to cut through haze.

Two or more sets of developing equipment would be advisable with each camera. One of these would be always kept with the camera; the other would be available when it was desired to develop a roll of urgently needed film while it was being carried back to the point where it was to be examined. These developing kits would be remarkably simple. A changing bag, a developing tank and the necessary chemicals are all that is needed.

Several complete sets of cameras and accessories and developing kits should be included in the division reconnaissance battalion and several in the engineer battalion. Regimental and divisional intelligence sections should also be provided with kits. Viewing devices are so compact and simple that they could be provided in any unit where they were needed.

As for the printing and enlarging equipment, it is doubtful if it would be needed farther forward than division headquarters and so this slightly more bulky equipment should be carried and used by the division signal company.

Lest we be accused of advocating gadgeteering, let it be remembered that any division commander would, if he could, make a personal reconnaissance of every inch of the ground over which he was to operate. This being impossible, the next best means of securing intelligence information for the personal use of the commanding general and his staff must be sought. Photography is already used with great success in the air; it is only reasonable to believe that it could also be used to advantage on the ground. As Foertsch points out in *The Art of Modern Warfare*, "Every development of modern peace time news transmission will also be used in war."

Inkblot Test Picks Soldiers

MEN suitable for the tank and other mechanized units of the armed forces and who can stand up under the strains of modern warfare, can be selected by use of an inkblot test ordinarily used to measure creative imagination or personality, Dr. Z. Piotrowski and Miss B. Candee of the National Youth Administration reported recently.

The test consists of looking at a carefully selected series of black and colored inkblots and telling what sort of picture or object the rather fantastic shape makes you think of. Your answers give psychologists clues to your past experience, interests, and personality.

It was possible, Dr. Piotrowski and Miss Candee reported, to pick the sort of young men who would make good at the sort of mechanical tasks necessary in the mechanized forces, and also to spot the ones who would break down under the strains of military life. In a test group of seventy men, predictions were made successfully for sixty-four individuals, they said.

Here are the personality traits it takes to make good in modern mechanized warfare, as analyzed in the course of this experiment:

1. Ability to carry through a given job carefully and conscientiously without continual prodding.

2. A constitution that is not disorganized by psychic shock but which can absorb or firmly reject such experience.

3. Enough strength of character at a chaotic period of adolescence to keep certain impulses from coming out in action without repressing them from consciousness. He can want to give the foreman a punch without doing it, but still be aware that he wants to.

Ability of the inkblot test to reveal the young man who would break down in a situation of unusual military strain although he might get along all right in ordinary camp life was indicated by six cases, five of which were judged correctly through the test alone. —*Science Digest*, July, 1942.

Battle Practice Course

A BATTLE PRACTICE COURSE for individuals and small units has been found useful in teaching minor tactics, scouting and patrolling and the use of individual weapons in close-in fighting.

The course is designed to present in a realistic manner the problems, confusion, and noise of battle, and to train individuals and small units to react promptly and correctly to minor tactical situations arising on the battlefield. It consists essentially of a series of stations located in a selected training area at each of which a simple tactical problem requiring immediate solution is encountered. A course of twelve or thirteen stations is customary, and the general direction between stations is marked by tape, stakes, or similar method.

The individual or small unit begins at a starting point and progresses from station to station, meeting and overcoming en route each problem presented. These are frequently encountered while troops are crossing or surmounting physical obstacles such as walls, hedges, ditches, streams, or shell holes. Prompt action is required on the part of personnel running the course, but none of the situations should involve more than one or two elementary decisions.

Upon completion of the course, a critique is held and the correct action in each situation pointed out. This critique is of importance to avoid repetition of common errors. Within the judgment of the instructor, a critique may be held at any station of the course. Especially will a succession of critiques be necessary if the stations are used by a demonstration group incident to the instruction of other groups.

As a training expedient the Battle Practice Course possesses several advantages. Specifically, it provides:

Practical training in minor tactics, scouting and patrolling, and the use of individual weapons.

An essential element of realism which serves to stimulate interest and enthusiasm.

A method of presenting common battlefield situations and of demonstrating their proper solution.

Successful completion of the course should serve to imbue the individual with a feeling of confidence in himself and his weapons and in his ability to meet and overcome battle emergencies.

In laying out the course, every effort should be made to provide realistic situations by judicious selection of terrain and the introduction of battle effects and features, such as shell holes, barbed wire, trench systems, the assessment of casualties, mud, dirt, and noise. However, if some of these features are unobtainable initially, the course should be constructed with provision made for later improvement.

The plan and situations shown on next page, is offered merely as a guide for construction of the course. Many other situations can be introduced. Situations involving defense against mechanized and air attack, the use of individual shelter and concealment, and the wearing of the gas mask over a considerable period of time are suggested. Even after initial construction, new and unexpected situations should be introduced from time to time to avoid a stereotyped course.

Every course should include some situations which are suitable for training in night firing. A separate course may be provided for such training.

Before running the course, troops participating should be instructed carefully as to the purpose of the course, its general layout, the mission assigned the unit, and the means employed to simulate tactical situations. The following is a suggested list of instructions to be given to patrols before using the course.

SUGGESTED INSTRUCTIONS TO BE GIVEN TO PATROL PRIOR TO RUNNING THE SMALL UNITS COMBAT COURSE

1. "Sgt. ———, you and these six (6) men will constitute a patrol. You will be given ten (10) minutes, after I finish, in order to inspect your patrol and give them any instruction that you see fit.

2. "The course is marked with yellow stakes—you do not have to follow exactly in the line of stakes but you do have to follow it generally in order to cover all of the area.

3. "You may place your patrol in any formation that you desire and you can change the formation from time to time as you see fit.

4. "The situations that will be presented to you on the course are designed to give you and your patrol instruction and experience in handling many difficult situations.

5. "Some of the situations to be presented to you are as follows:

a. Discovery of an enemy by seeing the flash of metal in the bushes.

b. Discovery of a trench system.

c. Discovery of an enemy behind a bush.

d. Discovery of a machine gun position.

e. Discovery of snipers.

f. Discovery of a gassed area.

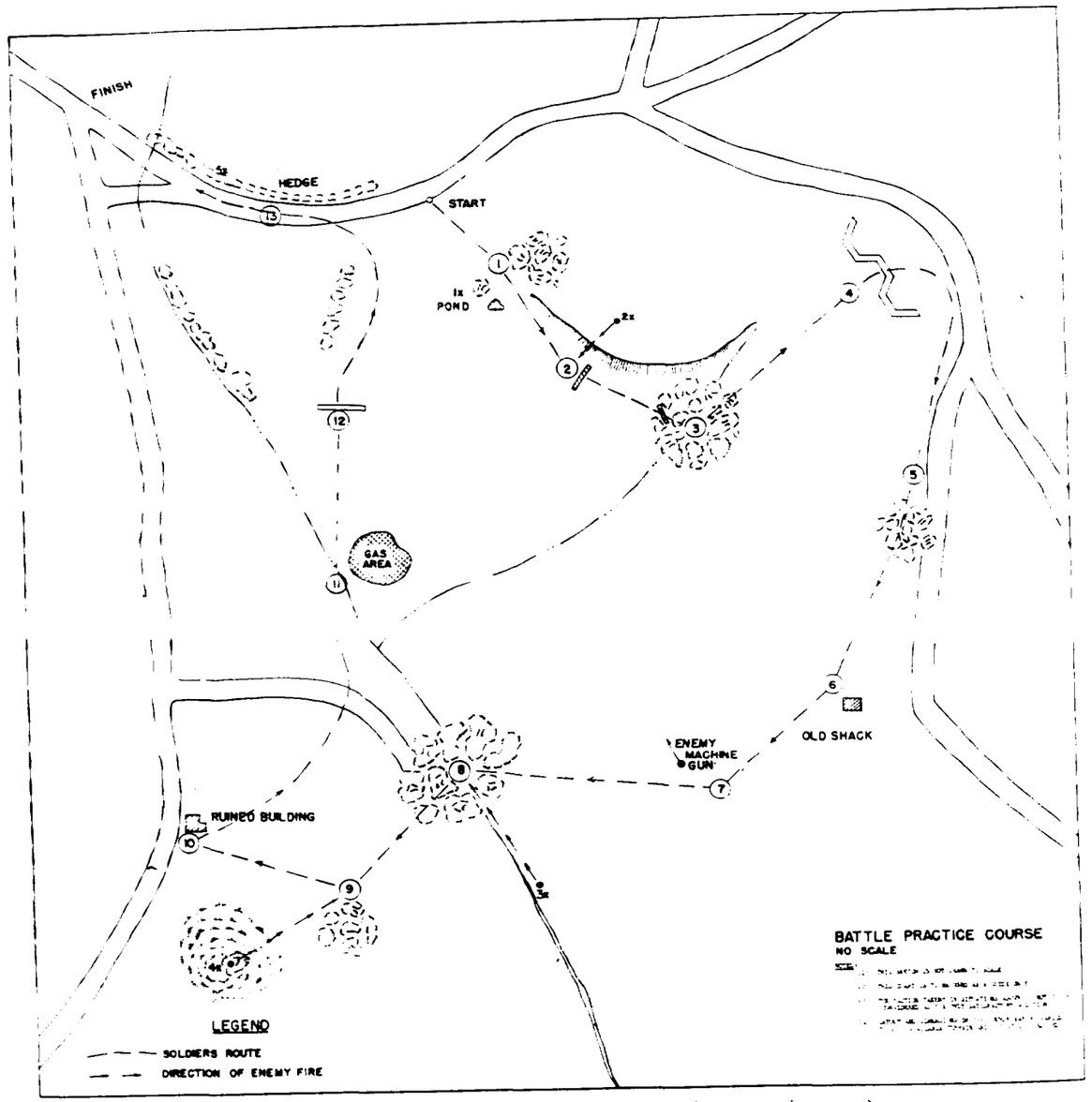
g. Disclosure of enemy by a sudden heavy burst of fire.

6. "You and your patrol will be expected to solve each situation as it is presented to you.

7. "Of necessity there are men stationed at different places throughout the course. Be careful and don't hit them with your grenades, bayonet or blank ammunition. There will be dummies or silhouettes at each position for you to concentrate on. No ball ammunition will be used. Instructors will control action. Cease all movement on hearing one long blast of whistle and await instructions.

8. "Here are your orders:

"Sgt. ———, it is known that the enemy occupies the area in front of our position and it is suspected that the enemy has started a withdrawal. You will follow the route indicated and eliminate such small groups of the enemy as you discover and upon return report to me anything unusual that you have seen. Are there any questions? You now have ten (10) minutes in order to give such instruction to your patrol as you care to."



Battle Practice Course. (Key to numbers presented on opposite page.)

1. *Situation:* When searching a thicket, a flash or movement is seen behind some bushes at 1x about 20 yards away. *Action Taken:* Leading member of patrol fires at object and charges in with fixed bayonet.

2. *Situation:* When investigating an obstacle 3 ft. high with 3 ft. ditch on far side, shot at from 2x, on a bank 100 yards away. *Action Taken:* All members of patrol except right flank men should return fire at once if they are in such a position that they can see the target.

3. *Situation:* Bushy country, movement is seen behind log in path. *Action Taken:* Leading member throws grenade into bushes and leading one or two men close in rapidly using bayonet.

4. *Situation:* Abandoned trench system not sited tactically is discovered in front. *Action Taken:* All should approach close to trench using all cover—leading members throw grenades. At least two members should rush trench at same time. Search dugout in trench system after using grenade in it.

5. *Situation:* Advancing along trail patrol receives heavy fire from large bushy area in front. *Action Taken:* Leading members take cover and return fire, other men flank position, open fire, charge in with bayonet and clean out entire area.

6. *Situation:* Comes upon wooden shed. A man is seen entering same. *Action Taken:* Member of patrol seeing this signals others. Patrol leader has three men cover the shed while one man flanks the building, and throws grenade in it. If fired upon from shed the three covering the flanker should riddle the shed with bullets while the flanker runs forward and throws grenade into building.

7. *Situation:* Observes a machine gun post firing to right front. Soldier's position not observed by gunners. *Action Taken:* Approaches to grenade distance, throws grenade into M.G. position and rushes in with bayonet. Other members cover this action.

8. *Situation:* Mopping up in areas where pockets of resistance are expected, sniped at from point 3x 100 yards on left flank. *Action Taken:* Takes cover—returns fire promptly—signals others—other members flank the sniper if needed.

9. *Situation:* Sniped at from tree at point 4x crest of hill. *Action Taken:* Take cover—return fire—signal others—flank enemy if necessary—this action and the action at #8 might occur at same time if patrol does not take cover when approaching #8.

10. *Situation:* Ruined building showing signs of enemy occupation (may contain booby traps). *Action Taken:* Patrol covers approach of one or two members who carefully investigate building avoiding possible booby traps.

11. *Situation:* Mustard gas area. Observes yellowish substance on ground. (Area marked out by boundary markers and simulated mustard placed in area by unit chemical officer.) *Action Taken:* Leading member detects gas—notifies others—all members don their masks—avoid area by going up wind of it.

12. *Situation:* 6-ft. breastwork, surmounted by 4-ft. wall. As patrol approaches the wall they are fired upon by men stationed behind it. *Action Taken:* All take cover and flank the position.

13. *Situation:* Advancing down road when gap in hedge at 5x reveals one enemy on other side with back to soldier. More enemy invisible behind hedge, but may be seen if a thorough observation is made. *Action Taken:* Reconnoiters and moves forward under cover. Opens fire and charges in with bayonet.

Burma Called No Place for Motor Troops*

NEW DELHI, India, May 30.—A mechanized army was the last thing that should have been used in Burma, General Harold Alexander declared today.

The British commander of the forces in Burma, who has just returned from that scene of Japanese success, said a new army was now being organized, trained and equipped to go back and retake the country, "which must be retaken because it is part of the British Empire."

Alexander said there were only two main roads in Burma on which a mechanized army could be used.

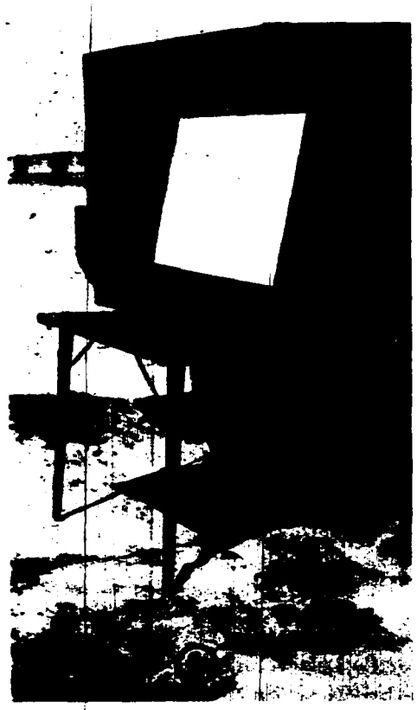
"The army fighting in Burma was designed for continental fighting," he said. "It was mechanized. The last thing you want in Burma is a mechanized army.

"I did my best to replace mechanization by bullock carts. This made the army considerably more mobile but meant new training for troops brought up on mechanized equipment."

The Japanese, on the other hand, were lightly equipped and used coolies and ponies for transport, Alexander said.

*Washington Post, May 31, 1942

Detachable Map Mount And Table



Designed and Built by
Master Sergeant Eharot and
*Sergeant Leuschner**

THIS compact combination map mount and table results from another instance of necessity being the mother of invention. Without depriving the command scout car of space essential to standard equipment, this sturdy and practical unit is definitely of much value and assistance to the command group for operations in the field.

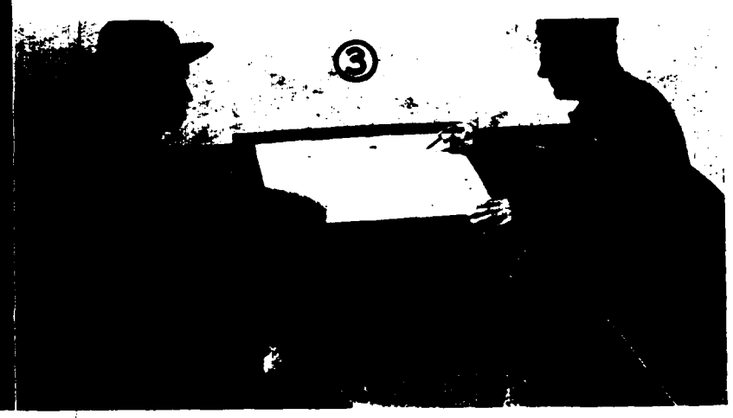
When not in use, the table folds into a compact displacement of only 30" x 24" x 3", but in a matter of a few seconds can be attached, opened and ready for work. Beneath the table and behind the map board are built-in cabinets to accommodate over twenty-five Map Quadrangles without undue mussing and creasing.

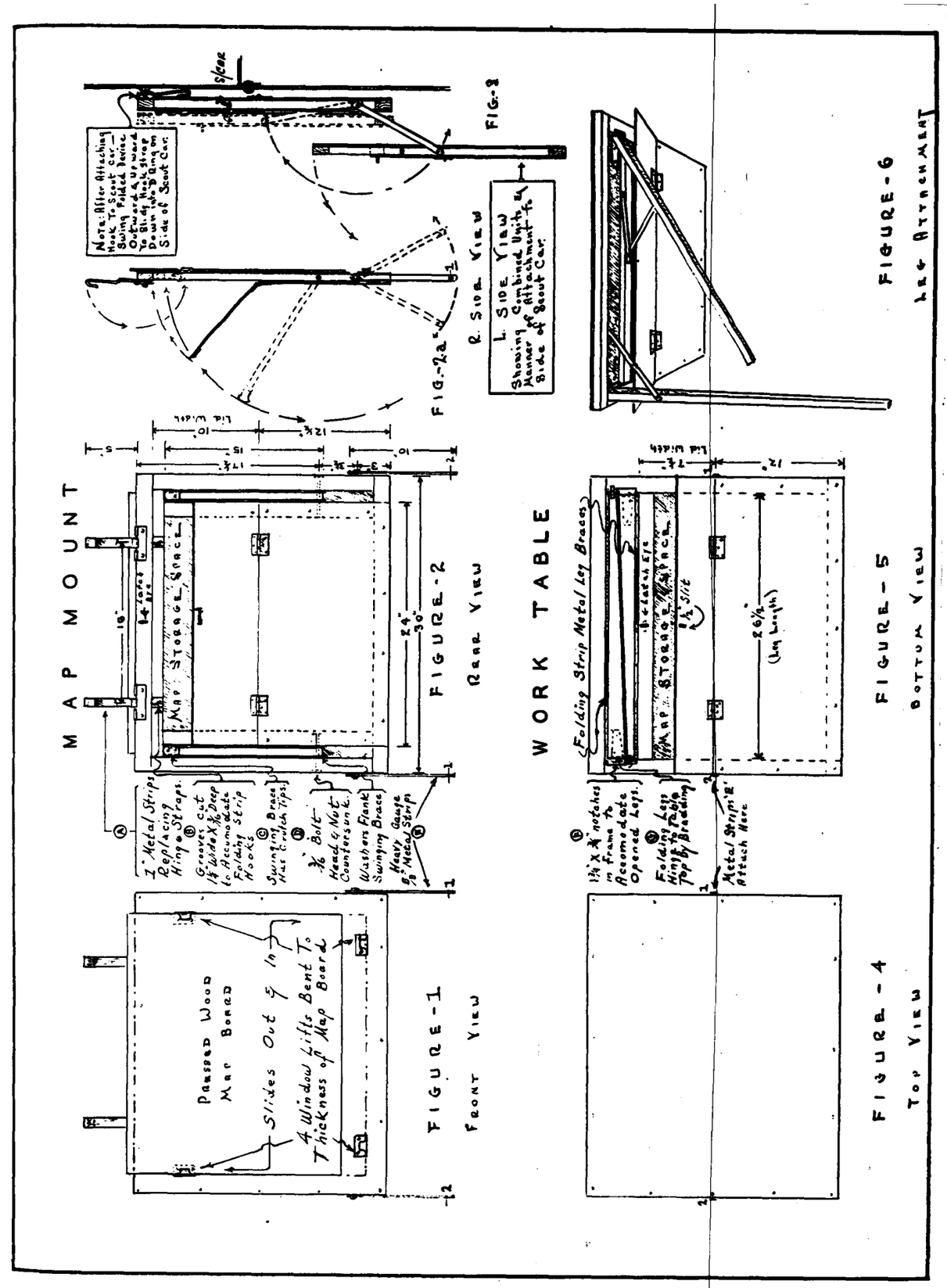
As the accompanying photographs illustrate, experiment has revealed many ways of attaching this unit. Consistent use seems to confirm that the manner as shown in photograph 1 is generally the most advantageous and practical. Under some conditions, however, the attachment may be used as shown in photograph 2. For mobile reconnaissance, it is conveniently used as in photograph 3.

The materials required for construction are simple and few. Other than the hardware, all that is needed are fifteen square feet of ply board and thirty-six feet of ¾" x 1¾" mold strip.

Detailed design for construction is shown in the drawing on opposite page.

*Headquarters, 12th Cavalry.





Keeping the Situation Map Clear

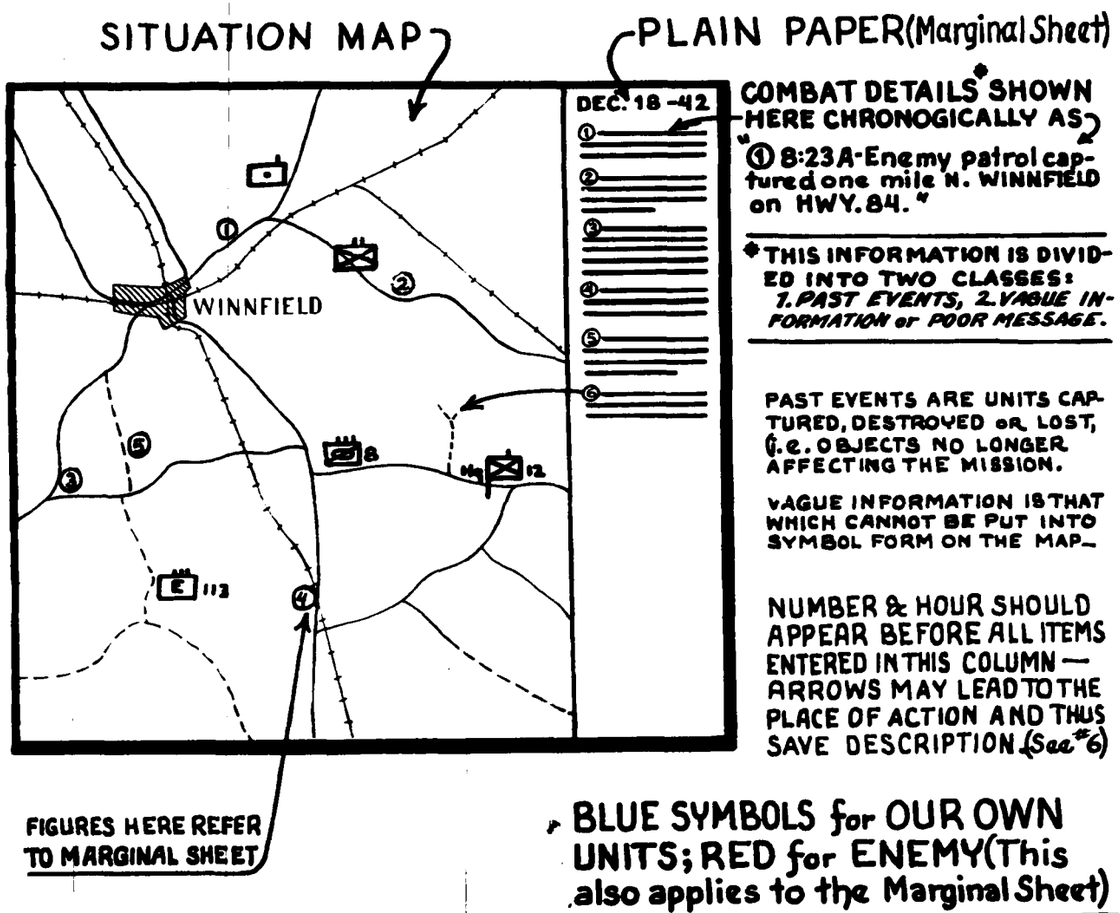
By Lieutenant Robert B. Rigg, 106th Cavalry

THE situation map should NOT be devoted to the history of an operation, but to the future of it. Therefore, do not regard enemy units captured or destroyed as important items to go on the situation map. Apply only the enemy units which are functioning—these are the ones which can affect your mission. Show all of the threats—let the journal record past actions.

It is a tendency to show all information and all details. The average situation map for a regiment or smaller unit is not large enough for a myriad of detail. It must contain the essentials only—furthermore, these maps contain both S-2 and S-3 data. If they are detailed, they are conglomerate—and in this state they are not readable.

We have situation maps because, "a picture is worth a thousand words." However, this picture can be worse than a thousand words unless it is stripped of the non-essentials.

A unit commander should be able to look at a situation map and see a situation—not a jumbled and confused group of symbols. We know how difficult it is to portray many units and actions on a map when the space is small. To that end the situation map may be supplemented by a marginal sheet which will carry the non-essentials in a form least confusing to the observer.



Keeping a Situation Map

The Situation Map

This will contain symbols for the active friendly and enemy units, installations, etc. Symbols will be clearly drawn and the hour of location applied below the symbol if necessary to include it. The usual rules of keeping it up to date will apply.

The Marginal Sheet

The marginal sheet is a strip of paper, about width of a message blank, which is placed on one side of the map. This bears the burden on non-essentials which do round out the picture but too often clutter up the map. Let us term them "combat details."

Entered on the marginal sheet, and numbered in order with the hour of the event are the combat details. These will be recorded as they occur. A number identical to the one an item bears on the marginal sheet is placed over the spot on the map where the event occurred. These numbers should be encircled and they should be small. Again, as on the map itself, use red for enemy and blue for our own.

An arrow may run from this column to the point of action in lieu of placing a number over it. However, too many of these will spoil the simplicity of the situation map.

Combat details should be stated in the most brief form. At the top of the marginal sheet should be placed the date. When a column is completely filled the sheet should be replaced with a fresh one, and the old one destroyed when information is recorded on the journal.

Combat Details

Combat details as entered on the marginal sheet are divided into two classes. The first can be termed "past events." This includes losses, movements, and items of past operational nature. An enemy unit destroyed or a friendly organization captured are examples of a "past event." The second type of combat detail will be "vague information." This type demands a written, though short, explanation by virtue of its character. In general, it is information of future value which cannot be shown in symbol form such as "patrol of 3 men seen near ——." Too often it is facts poorly stated by a bad message. Generally, these cannot be put in symbol form on the map but must be shown somewhere because the items constitute a threat to our mission. This is the real use for the marginal sheet because it is not practical to write on a map. The accompanying illustration gives the arrangement of a situation map with a marginal sheet. Two marginal strips may be used if desired. There are no cut and dried regulations for keeping situation maps. Field Manual 30-5 provides a general outline for the map. Different units and organizations of various sizes require a variety of situation maps. However, they must all be readable. That is the marginal sheet's main value—it insures clarity.

Summary

Pins or tacks in a situation map are not practical as too often it is necessary to make overlays from the map. A map covered with a hard transparent surface and marked with wax pencils is the best, as it allows for the erasures and changes which must be made to keep the map up to date. Likewise this is a good waterproof covering. Situation maps should not be overly large or, in any manner, clumsy. If one can be carried under the arm it is of the most convenient size.

Let the situation map show two things: 1. ENEMY CAPABILITIES, in terms of military symbols of active enemy units. 2. OUR MEANS OF COMBATING THE ENEMY, in terms of symbols of friendly units. The former will be supplied by S-2, the latter by S-3.

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MANUSCRIPT DEADLINE DATE NEXT ISSUE, SEPT. 1st.

Combat Forms Revised

By Pfc. Gene Gach, 11th Cavalry

THE motorcyclist wheeled his bike into a sand hill, stopped and gave his message to the message center, which was concealed in a clump of mesquite. A dismounted carrier brought the message to the Commanding Officer of the Command Post.

After passing on the details of the message to his subordinates, and giving his various troops orders to seek new positions, the Commanding Officer ordered his Command Post Party to mount. Their horses cut a floury trail in the bleached alkali face of the Mexican border desert. The enemy was hot on their trail.

Once stationed in a new and presumably safer command post, the Commanding Officer turned the message over to the S-2 Sergeant who was to enter it in the Work Sheet, the Unit Journal. This he did and the mock war continued its bloodless way. The message had been, "Estimated two troops red cavalry moving south 6 miles due west of Signal Mountain at a trot at 2:10 P.M. (Signed) Foof" 2:14 P.M.

The first thing the S-2 Sergeant had to put in was the entry under the label "time." There were a few time elements involved. What should he enter here? Either of these five choices:

1. The time the enemy was sighted.
2. The time the message was sent.
3. The time the message was received by the message center.
4. The time the message reached the Commanding Officer.
5. The time the message was entered on the work sheet.

Each of these time elements might be important to a General or G-2 Officer examining the work sheet for a clear picture of the movement. The S-2 Sergeant entered the time that message was sent, listed the message, put Foof's name under "Represented by," and jotted "P N S T" under "Disposition" thereby indicating the contents of the message had been posted on the situation map, noted, and that the staff and troops had been notified of its contents.

An umpire signalled that the S-2 Sergeant was a casualty of war and the combat forms were passed on to an S-2 Clerk. The war went on, was won or lost, and the time came, as it must to so many Command Post Exercises, for an inspecting officer from a higher headquarters to inspect the S-2 paper forms. Everyone, the inspecting officer generously conceded after making his

UNIT JOURNAL

UNIT _____
LOCATION _____
DATE _____

NO.	ORIGINATION	ADDRESSEE	HOW SENT RECEIVED	TIME SENT	TIME REC'D	TIME ENTERED	MESSAGE OR ITEM	DISPOSITION

examination, was to be congratulated upon having accomplished his mission in a soldierly fashion.

But, he asked, who was "Foof"? Everyone in the 11th Cavalry knew that Foof was the Commanding Officer of the Machine Gun Troop, the visiting inspector was told. It would seem that the man's office as commander of a troop were more important than his name, pointed out the man from higher headquarters.

Not all the compilers of the Combat Forms had accorded the same interpretation to the "Time" column. In this space some entered the time the action took place, some the time the message was sent, others the time the message was received, and still others the time the message was entered on the Combat Form. This, of course, added very little to the clarity of the picture the Combat Form was intended to convey.

These fallibilities prompted the S-2 personnel to wonder if their Combat Forms were perfect beyond need for improvement. This sentiment seemed to be confirmed during a recent situation in which local forest rangers augmented the forces of the 11th Cavalry in a searching party. Looking at the Unit Journal to orient themselves on what had happened before they arrived on the scene, the rangers each gave different interpretations to the time element column, and, being relative strangers to the regiment, were not enlightened by the entry of the names. Had each name been followed by such notes as "C.O., 'A' Area Patrol," or "O.P., 'B' Area," these entries would have told the rangers the story.

Accordingly, the S-2 Office of the 11th Cavalry have introduced some slight revisions on the old Unit Journal and Work Sheet Forms which are intended to render them fool proof, easier to keep, easier to read, and more informative. No additional data need be written on the new forms but that which is recorded is so arranged as to make each entry a self contained and self explanatory message.

The first item on the Unit Journal, (following the unedited column for the serial number) is now "Origination." Here, as befits the beginning of a story, is entered the sender's name and his office. In addition to Foof's name there will be a description of his rôle in the action. He will not be listed as Foof but as "Foof, C.O., MG Tr."

The next item is now "Addressee" and in this space we will insert the name and the office of the man getting the message, such as "Col. Herr, C.O., 11th Cav."

"How Sent or Received," the next item, is considered vital because it is often important to the picture to know whether the information was relayed by radio, mounted messenger, parachute, motorcycle or pigeon carrier. One word does the trick here.

In successive spaces are now listed the time the message was sent, the time it was received and the time it was entered. No divergencies of ideas on which is the most important time can now muddle the picture.

The rest of the Unit Journal (a space for the actual message and its disposition) remains unaltered.

The Work Sheet has been edited, accordingly, though in less detail because that particular form is kept up to the minute at all times and must often receive attention on the run.

Experience with the new forms indicates that they call for no more time or work to complete than the former ones. The data is simply broken up into columns before it reaches the "Incidents, Messages, Orders, etc." column. This, besides making the entire picture easier to visualize, takes up less space on the paper and saves turning the page so many times, a trifling detail to mention but a matter of some importance in the field where split seconds determine the difference between defeat and victory.

It is hoped that to even a person who has never before seen a combat form the revised Unit Journal, properly recorded, will reveal an intelligible, easily read, chronologically correct, and interesting report of the action.

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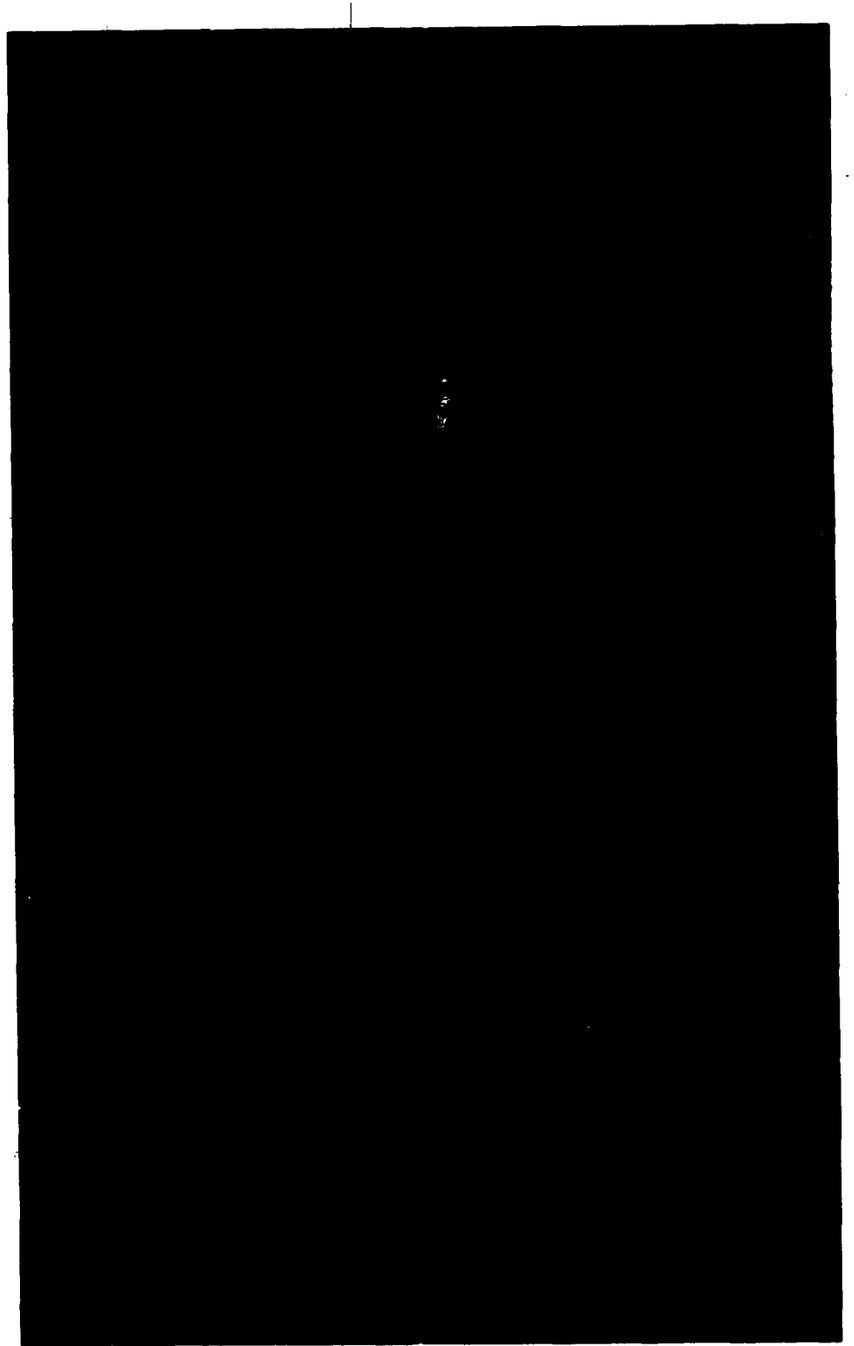
Address all communications for the United States Cavalry Association and The Cavalry Journal to 1719 K Street, N.W., Washington, D. C.



The original message, actual size. (Reproduced by courtesy of the U. S. Military Academy Library, West Point.)

THE LOST IS FOUND

Custer's Last Message Comes to Light!

By Colonel W. A. Graham, Retired

TWENTY YEARS ago this month, after searching for him many months, I found John Martin, the man who carried Custer's last message; the famous message to Benteen that bid him to "come on and be quick" and to "bring the packs."

The dispatch of that message marked the crisis of the battle of the Little Big Horn, where Custer, and nearly half the Seventh Cavalry, found death instead of glory waiting for them at the trail's end.

Having read avidly all War Department records of this dramatic fight, in which the American Indian achieved his greatest triumph over the American soldier, I keenly wished to write the story of that message.

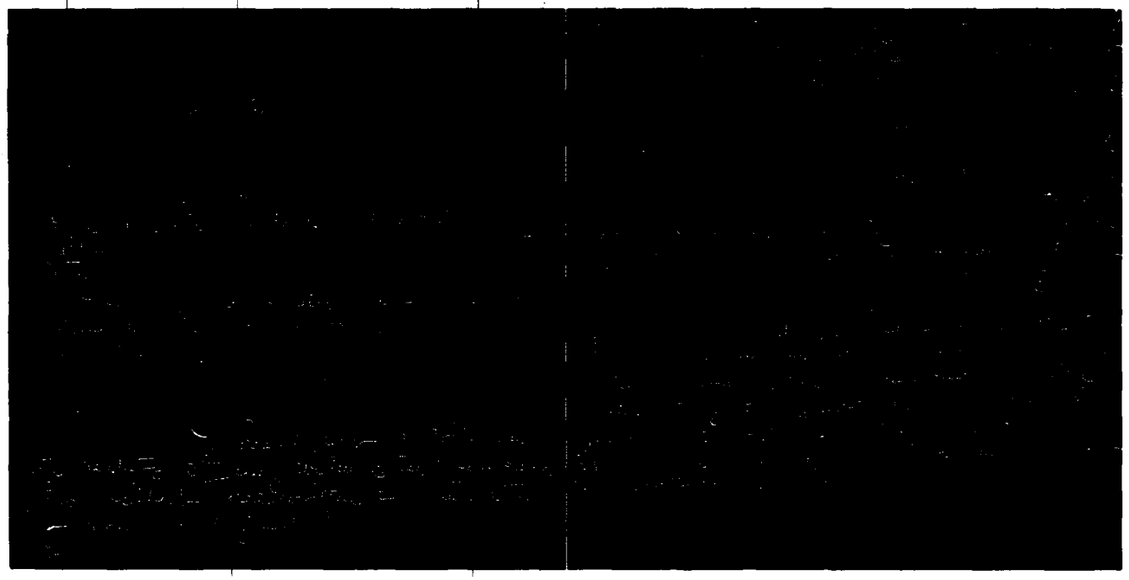
The messenger was found; but the message itself had disappeared. I turned the records inside out in efforts to locate it, until I became a nuisance to The Adjutant General. Then, early in 1923, Major Fred Benteen, son of the gallant officer to whom the message was sent, told me that all his father's papers were destroyed when their home had burned long years before; that the famous message with many another relic of the Little Big Horn had then gone up in smoke. And so I ceased my search, and wrote John Martin's story of how he carried Custer's final message to Benteen. The CAVALRY JOURNAL published it, with comments by General Edward S. Godfrey, a distinguished participant in the battle, in its July, 1923,* number.

It now appears that the younger Benteen was mistaken. The message had not gone up in smoke as he supposed, for it has lately become known that after producing it to supplement his testimony before the Court of Inquiry held in 1879 to determine whether Major Reno, Custer's second in command, had been guilty of misconduct at the Little Big Horn, the elder Benteen had presented it to a friend, a certain Captain Price of Philadelphia. Apparently he told no one about it, for Godfrey also believed the paper destroyed by fire. Thus lost since 1879—Custer's last message has now been found, and through the commendable efforts of Colonel Charles Francis Bates, Retired, it now rests safe in the library at West Point.

The story of its recovery is interesting. For the past fifty years it has been in the possession of the family of a New Jersey collector who acquired it from Price, and who, so far as I can learn, valued it only as a curio. How many other historic documents, I wonder, now accounted for as lost, might be restored to public record

*Out of print.

Left: Lieutenant W. W. Cooke, Regimental Adjutant, who wrote the message. *Center:* Captain F. W. Benteen, to whom the message was sent. *Right:* John Martin, the man who carried the message. Portrait made at the time of his retirement in 1906. (Benteen and Martin photos by D. F. Barry.)



Benteen's letter to Robert Newton Price in which Benteen presents the original Cooke message to Price.

if only the collections of relic hunters could be made to give up their secrets?

The original message, with other treasures of the collector, was recently advertised for sale at auction. Colonel Bates thus learned of its existence, and arranged with the owner to secure it for West Point. There can be no doubt of its authenticity. Not only is the script of the message itself plainly the hand of Lt. W. W. Cooke, the 7th's regimental adjutant, who died with Custer within an hour of the time he wrote it, but the unmistakable penmanship of Benteen himself, once seen, never forgotten, attests its genuineness in the "translation" made for his friend Price's benefit, and which he inscribed above its pencilled words.

It was far from easy to get Martin's story of his ride to Benteen. He was very old and very feeble when I found him deep in the jungle of Brooklyn's Italian quarter. His memory was as feeble as his body, and it was only after I had made three separate visits, each time reading to him (for he was almost blind) his testimony before the Reno Inquiry, that recollection of that fateful June day of 1876 came back. But when it did come back, it came with a wealth of incident and detail that was surprising. And so I wrote his story, just as he told it to me, and he signed it.

Between visits to Martin I made an official trip to New Orleans in an attempt to adjust a dispute between the Government and the local "Dock Board" over the title to lands upon which the Army's multi-million dollar warehouses had been built during the World War. Having permission to stop over in Atlanta, I there saw Major Benteen, and it was then he told me that the famous message had been burned; but he told me also that he had some letters written by his father during the campaign of 1876 that had escaped the flames only because his mother had them safely stored away in a fireproof vault. He had never read them, he said, nor shown them to anyone, but he would let me see them; and he did. Two of those letters were written less than ten days after the battle—the first July 2d—the other July 4, 1876.

The letter of July 4th is of especial significance. In it Benteen tells not only of the receipt of Custer's last message, but recounts the harrowing experience through which the regiment had passed; and it tells also all that then was known of what had happened to Custer and his immediate command. But little more has been discovered since. Those two letters Major Benteen permitted me to take back to Washington, where photostatic copies were made. The letter of July 4th I both showed and read to General Godfrey, saying to him as I did so—"this letter is of historical importance." The general replied—"It is far more than that. It was written long before any controversy had arisen over the way the battle was conducted, and under circumstances that give it special credit. It is history itself."

Omitting only such parts as are purely personal, here the letter is:

> July 4th 1876. Montana.
> Camp 7th Cavalry, Yellowstone River.
> Opposite mouth of Big Horn River.

My ——— Darling,

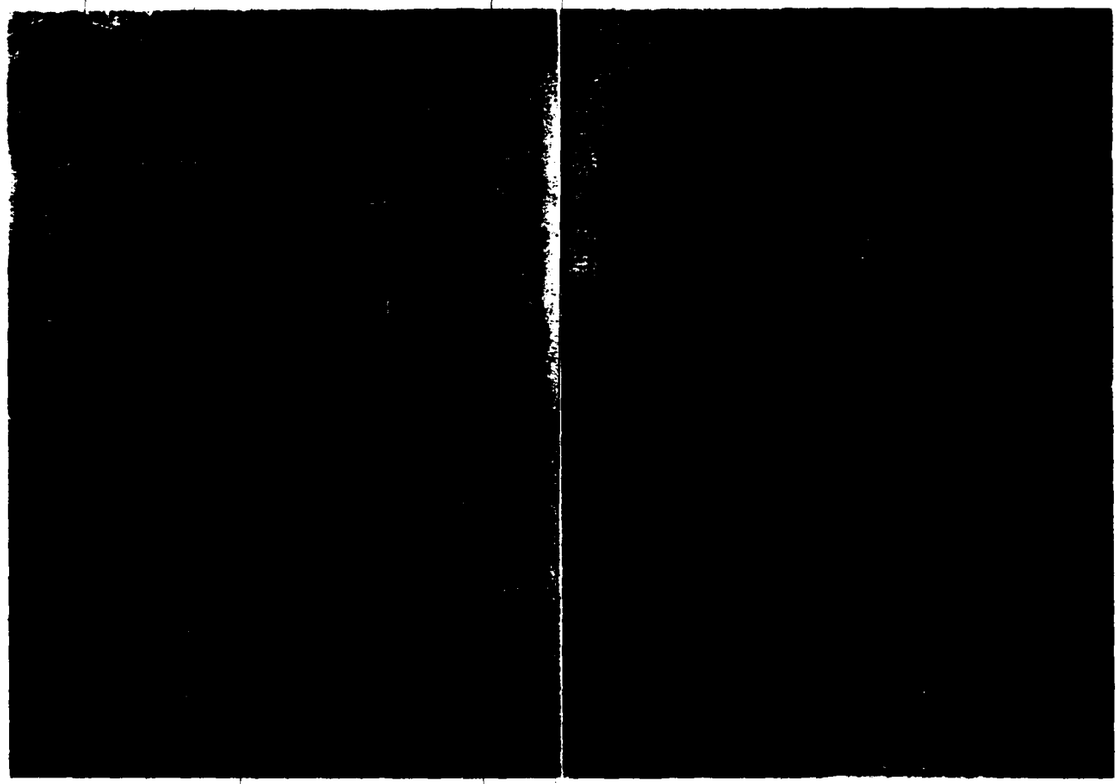
. . . I will commence this letter by sending a copy

of the last lines Cooke ever wrote, which was an order to me to this effect.

> Benteen. Come on. Big village. Be quick, bring packs. W. W. Cooke.
>
> (P.S. Bring pac-s) He left out the *k* in last packs.

I have the original, but it is badly torn and it should be preserved. So keep this letter, as the matter may be of interest hereafter, likewise of use. This note was brought back to me by Trumpeter Martin of my Co. (which fact saved his life.) When I received it I was five or six miles from the village, perhaps more, and the packs at least that distance in my rear. I did not go back for the packs but kept on a stiff trot for the village. When getting at top of hill so that the valley could be seen—I saw an immense number of indians on the plain, mounted of course and charging down on some dismounted men of Reno's command; the balance of R's command were mounted, and flying for dear life to the bluffs on the same side of river that I was. I then marched by 3 Co's. to them and a more delighted lot of folks you never saw. To commence—On the 22d of June—Custer, with the 7th Cavalry left the Steamer "Far West," Genl. Terry and Genl. Gibbon's command (which latter was then in on the side of river and in same camp in which we now are) and moved up the Rosebud, marching 12 miles—the next day we marched 35 miles up the same stream. The next day we marched 35 more miles up same stream and went into bivouac, remaining until 12 o'clock P.M. We then marched until about daylight, making about 10 miles; about half past five we started again—and after going 6 or 7 miles we halted and officers' call was sounded. We were asked how many men of the companies were with the Co. Packs. and instructed that only six could remain with them—and the discourse wound up with—that we should see that the men were supplied with the quantity of ammunition as had been specified in orders and that the 1st Co. that reported itself in readiness should be the advance Co. I knew that my Co. was in the desired condition and it being near the point of Assembly I went to it, assured myself of same, then announced to Genl. Custer that "H" Co. was ready; he replied the Advance is yours, Col. Benteen. We then moved four or five miles and halted between the slopes of two hills and the Regt. was divided into Battalions—Reno getting Co's. "A. G. and M." I getting "D. H. K." From that point I was ordered with my Battn. to go over the immense hills to the left, in search of the valley, which was supposed to be very near by and to pitch into anything I came across—and to in-

Left: General Custer, who sent the message. *Right:* Sitting Bull. (Photo by D. F. Barry.)



Letters of authentication by Robert Newton Price to whom the message was given by Captain Benteen.

form Custer at once if I found anything worthy of same. Well, I suppose I went up and down those hills for 10 miles—and still no valley anywhere in sight, the horses were fast giving out from steady climbing—and as my orders had been fulfilled I struck diagonally for the trail the command had marched on, getting to it just before the Pack train got there—or on the trail just ahead of it. I then marched rapidly and after about 6 or 7 miles came upon a burning tepee—in which was the body of an indian on a scaffold, arrayed gorgeously —None of the command was in sight at this time. The ground from this to the valley was descending but very rough. I kept up my trot and when I reached a point very near the ford which was crossed by Reno's Battn. I got my first sight of the Valley and river—and Reno's command in full flight for the bluffs to the side I was then on—Of course I joined them at once. The ground where Reno charged on was a plain 5 or 6 miles or 10 miles long and about one mile or more wide; Custer sent him in there and promised to support him —after Reno started in, Custer with his five Co's instead of crossing the ford went to the right—around some high bluffs—with the intention—as is supposed—of striking the rear of the village; from the bluff on which he got he had his first glimpse of the whole of it—and I can tell you 'twas an immense one. From that point Cooke sent the note to me by Martin, which I have quoted on 1st page. I suppose after the five Co's had closed up somewhat Custer started down for the village, all throats bursting themselves with cheering (So says Martin). He had 3½ or 4 miles to go before he got to a ford—as the Village was on the plain on opposite side to Custer's column. So, when he got over those 4 miles of rough country and reached the ford, the indians had availed themselves of the timely information given by the cheering—as to the whereabouts and intentions of that column, and had arrangements completed to receive it. Whether the indians allowed Custer's column to cross at all, is a mooted question, but I am of the opinion that nearly—if not all of the five companies got into the village—but were driven out immediately—flying in great disorder and crossing by two instead of the one ford by which they entered. "E" Co. going by the left and "F. I. and L." by the same one they crossed. What became of "C" Co. no one knows—they must have charged there below the village, gotten away—or have been killed in the bluffs on the village side of stream—as very few of "C" Co. horses are found. Jack Sturgis and Porter's clothes were found in the Village. After the indians had driven

them across, it was a regular buffalo hunt for them and not a man escaped. We buried 203 of the bodies of Custer's command the 2d day after fight—The bodies were as recognizable as if they were in life. With Custer—was Keogh, Yates and Tom Custer (3 Captains) 1st Lieut's. Cooke, A. E. Smith, Porter, Calhoun (4) 2d Lieuts. Harrington, Sturgis, Riley and Crittenden (J. J. of 20th Inf.) Asst. Surgeon Lord was along—but his body was not recognized. Neither was Porter's nor Sturgis' nor Harrington's.

McIntosh and Hodgson were killed at Reno's end of line—in attempting to get back to bluffs. DeRudio was supposed to have been lost, but the same night the indians left their village he came sauntering in dismounted, accompanied by McIntosh's cook. They had hidden away in the woods. He had a thrilling romantic story made out already—embellished, you bet! The stories of O'Neill (the man who was with him) and De R's of course, couldn't be expected to agree, but far more of truth, I am inclined to think, will be found in the narrative of O'Neill; at any rate, it is not at all colored—as he is a cool, level-headed fellow—and tells it plainly *and the same way all the time*—which is a big thing towards convincing one of the truth of a story.

I must now tell you what we did—When I found Reno's command. We halted for the packs to come up—and then moved along the line of bluffs towards the direction Custer was supposed to have gone in. Weir's Company was sent out to communicate with Custer, but it was driven back. We then showed our full force on the hills with Guidons flying, that Custer might see us—but we could see nothing of him, couldn't hear much firing, but could see an immense body of indians coming to attack us from both sides of the river. We withdrew to a saucer like hill, putting our horses and packs in the bottom of saucer and threw all of our force dismounted around this corral; the animals could be riddled from only one point—but we had not men enough to extend our line to that—so we could not get it—therefore the indians amused themselves by shooting at our stock, ditto, men—but they, the men, could cover themselves. Both of my horses (U. S. horses) were wounded. Well they pounded at us all of what was left of the 1st day and the whole of the 2d day—withdrawing their line with the withdrawal of their village, which was at dusk the 2d day. Corporal Loll, Meador and Jones were killed; Sergt. Pahl, both of the Bishops, Phillips, Windolph, Black, Severs, Cooper, etc. (21 altogether) wounded. I got a slight scratch on my right thumb, which, as you see, doesn't prevent me from writing you this long scrawl. As this goes via Fort Ellis it will be a long time reaching you. Genl. Terry, with Genl. Gibbon's command—came up the morning of the 3d day, about 10 o'clock. Indians had all gone the night before. Had Custer carried out the orders he got from Genl. Terry, the commands would have formed a junction exactly at the village, and have captured the whole outfit of tepees, etc. and probably any quantity of squaws, pappooses, etc. but Custer disobeyed orders from the fact of not wanting any other command—or body to have a finger in the pie—and thereby lost his life. (3000 warriors were there).

Margin:

. . . Boston Custer and young Mr. Reed, a nephew of Genl. Custer, were killed, also Kellogg, the reporter. . . .

This is a long scrawl—but not so much in it after all—and I am about getting to the end of my tether. Reno has assumed command and Wallace is Adjutant. Edgerly, Qr. Mr. By the death of our Captains, Nowlan, Bell and Jackson, 3 "coffee-coolers" are made Captains and Godfrey is Senior 1st Lt., Mathey 2d, Gibson 3d. Quick promotion. I am inclined to think that had McIntosh divested himself of that slow poking way which was his peculiar characteristic, he might have been left in the land of the living. A Crow indian, one of our scouts who got in the village, reported that our men killed a great many of them—quite as many, if not more, than was killed of ours. The indians during the night got to fighting among themselves and killed each other—so the Crow said—he also said as soon as he got possession of a Sioux blanket, not the slightest attention was paid to him. There was among them Cheyennes, Arrapahoes, Kiowa and representatives probably from every Agency on the Mo. River. A host of them there sure.

The latest and probably correct account of the battle is that none of Custer's command got into the village at all. We may not be back before winter, think so very strongly.

Well—Wifey, Darling, I think this will do for a letter, so with oceans of love to you and Fred and kisses innumerable, I am devotedly,

Your husband

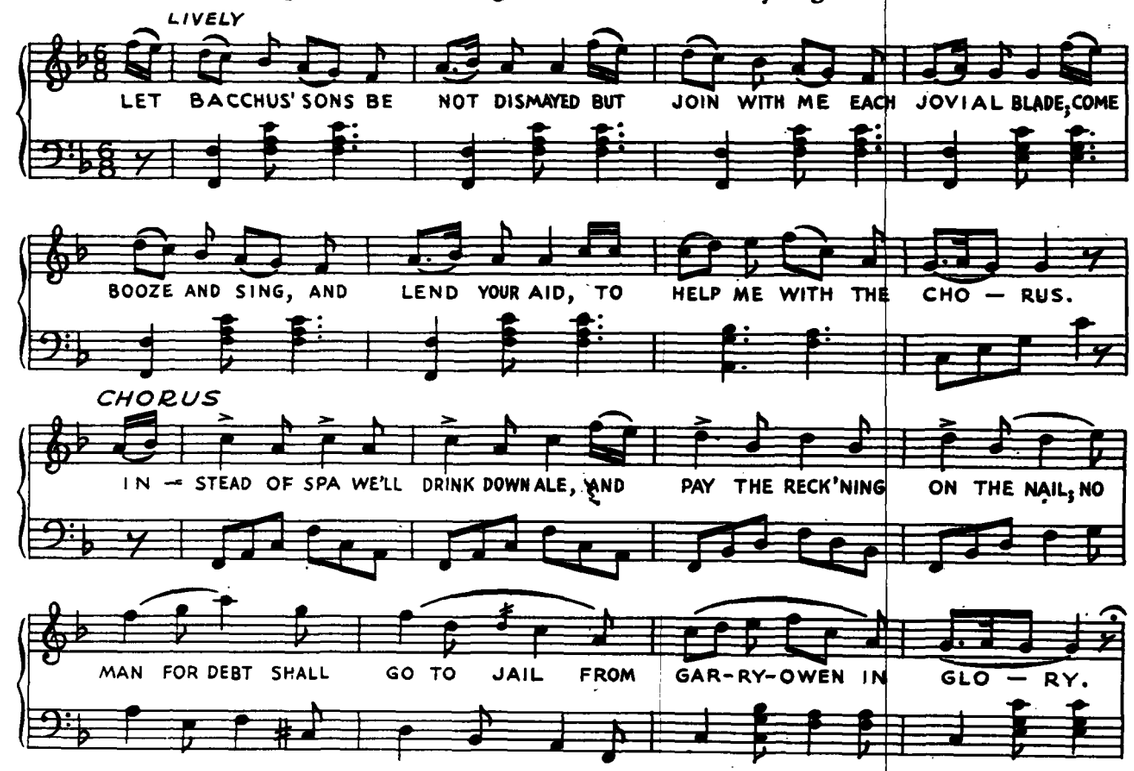
FRED BENTEEN.

★ ★ ★ ★

One of the biggest lessons to come out of the war on the Eastern Front—and one which has not yet received due recognition over here—is that horse cavalry is still a potent weapon when used in force.

GARRY OWEN*

Regimental Battle Song of Seventh U. S. Cavalry Regiment



THE origin and composer of the tune, quick march or drinking song, entitled "Garry Owen," has been a moot question. After no little research, it has been definitely established that the music is not that of Scottish strain, but without a doubt of Irish origin.

It has been used by several Irish Regiments as their quick march; the Fifth Royal Irish Lancers stationed in the suburb of Limerick called "Garryowen," (the Gaelic word, meaning "Owen's Garden") used it as their drinking song. The words can hardly be called elevating, but depict the rollicking nature of the Lancers while in town on pay day in search of their peculiar style of "camaraderie." The following verses are set to the music of "Garryowen."

1.

Let Bacchus' sons be not dismayed
  But join with me each jovial blade;
Come booze and sing, and lend your aid,
  To help me with the chorus.

CHORUS:

Instead of Spa[2] we'll drink down ale,
  And pay the reck'ning on the nail;
No man for debt shall go to jail
  From Garryowen in glory.

2.

We are the boys that take delight in
  Smashing the Limerick lights when lighting;
Through the streets like sporters fighting
  And clearing all before us.

3.

We'll break windows, we'll break doors
  The watch knock down by threes and fours;
Then let the doctors work their cures,
  And tinker up our bruises.

4.

We'll beat the bailiffs out of fun
  We'll make the Mayors and Sheriffs run;
We are the boys no man dares dun,
  If he regards a whole skin.

*This article appears in Appendix No. 2, of the book: **Keogh and Commanche**, by Edward S. Luce.

[2] "Spa," meaning mineral water.

5.

Our hearts so stout have got us fame
For soon t'is known from whence we came;
Where'er we go they dread the name,
Of Garryowen in glory.

Thomas Moore (1779-1852), the celebrated Irish Poet, had a somewhat different idea for fitting words to the song, and in several books of music compositions dealing with Irish folksongs, we find the following words under the title of "The Daughters of Erin."[3]

1.

We may roam thro' this world, like a child at a feast,
Who but sips of a sweet, and then flies to the rest;
And, when pleasure begins to grow dull in the east,
We may order our wings and be off to the west:
But if hearts that feel, and eyes that smile,
Are the dearest gifts that Heaven supplies,
We never need leave our own green isle,
For sensitive hearts, and for sun bright eyes.

CHORUS:

Then remember, wherever your goblet is crown'd,
Thro' this world, whether eastward or westward you roam,
When a cup to the smile of dear woman goes round,
Oh! remember the smile which adorns her at home.

2.

In England, the garden of Beauty is kept—
By a dragon of prudery placed within call;
But so often this unamiable dragon has slept,
That the garden's but carelessly watch'd after all.
Oh! they want the wild sweet-briery fence,
Which round the flowers of Erin dwells;
Which warns the touch, while winning the sense,
Nor charms us least when it most repels.

3.

In France, when the heart of a woman sets sail,
On the ocean of wedlock its fortune to try,
Love seldom goes far in a vessel so frail,
But pilots her off, and then bids her good-bye.
While the daughters of Erin keep the boy
Ever smiling beside his faithful oar,
Through billows of woe, and beams of joy,
The same as he look'd when he left the shore.[4]

I have tried to ascertain the approximate date when this number was first introduced into this country, and when it was first used as a military quickstep by the United States Army. As far as it is known, it was most likely introduced between the years of 1861 and 1866. The first instance that we know of its use as a military quickstep by any military organization was in the early part of 1867, when it was played by the Seventh United States Cavalry Band. It was then that the music was adopted as the regimental air by that organization.

The late Mrs. George A. Custer, widow of General Custer, had several times remarked to me that she first heard her husband hum and whistle the piece a short time after the regiment was organized at Fort Riley, and that she believed the late Brevet Lieutenant Colonel (Captain) Myles W. Keogh, Seventh Cavalry, was in some way connected with introducing the song to the regiment.

While this cannot be taken as an absolute fact, still, as we look further into the matter, it is not at all unlikely. Captain Keogh's father was an officer in the Fifth Royal Irish Lancers, and the birthplace of Captain Keogh, in Orchard, Carlow County, Ireland, is but a short distance from Limerick on the banks of the River Shannon, from whence much music and poetry has emanated. When one takes into consideration the close connection between Captain Keogh and the Irish Lancers, and his companionship with Captains Henry J. Nowlan, Charles C. DeRudio of the Seventh Cavalry, as well as Generals O'Keefe and Coppinger, all of whom served in the Papal Guard before they came to this country and joined the Union Army in 1861, one cannot help but believe that such a boon comrade ship had a very great part in bringing the song, "Garry Owen," to this country and to the Seventh Cavalry.

The tempo and the spirit of the music is definitely comparable to the cadence of the mounted service, and instills a certain "Esprit de corps" in the heart of every Seventh Cavalryman.

It is a known fact that the Seventh Cavalry Band played "Garry Owen" at the Battle of the Washita, November 27, 1868. The following is a quotation from the late Captain Francis M. Gibson's narrative:[5]

"And now we listened intently for the signal notes of "Garry Owen," our charging call, and the death march as well of many a comrade and friend. At last the inspiring strains of this rollicking tune broke forth, filling the early morning air with joyous music. The profound silence that had reigned through the night was suddenly changed to a pandemonium of tumult and excitement; the wild notes of "Garry Owen," which had resounded from hill to hill, were answered by wilder shouts of exultation from the charging columns."

The following quotation is from a letter written by the late Private Theodore W. Goldin, Troop "G" Seventh Cavalry, a Medal of Honor man, a few days before he died.

This letter was addressed to Chaplain (Major) George J. McMurry, Seventh Cavalry, with reference to the Battle of the Little Big Horn River, June 25, 1876.

"On the day we moved out from Powder River with the pack train, the Band was posted on a knoll overlooking the river, where they played merrily while we were fording the river. After all were across and the six troops formed we took up the march towards Tongue River and the Rosebud, the Band broke into the rollicking strains of "Garry Owen" which as usual brought a hearty cheer, and its notes were still ringing in our ears as we left the river bottoms and the Band was lost to sight as we wound up a wide ravine. The strains of the old Regimental Air were the last notes from the old Band that fell on the ears of General Custer, the Staff and many officers and men of the old Regiment."

Prior to the Seventh Cavalry's departure for the Philippines in 1905, Chief Musician J. O. Brockenshire, of the Seventh Cavalry Band rewrote the music of "Garry Owen," and also composed the stanzas and chorus:

1.

We are the pride of the army,
And a regiment of great renown,
Our name's on the pages of history
From sixty-six on down.
If you think we stop or falter
While into the fray we're goin'
Just watch the step with our heads erect
When our band plays "Garry Owen."

CHORUS:

In the Fighting Seventh's the place for me,
It's the cream of all the cavalry;
No other regiment ever can claim
Its pride, honor, glory and undying fame.

2.

We know no fear when stern duty
Calls us far away from home,
Our country's flag shall safely o'er us wave,
No matter where we roam.
Tis the gallant Seventh Cavalry,
It matters not where we're goin'
Such you'll surely say as we march away:
And our band plays, "Garry Owen."

3.

Then hurrah for our brave commanders!
Who lead us into the fight.
We'll do or die in our country's cause.
And battle for the right.
And when the war is o'er,
And to our home we're goin'
Just watch the step, with our heads erect,
When our band plays, "Garry Owen."

In conclusion, as to the origin of the tune of "Garry Owen" it is believed that the below authority can be taken as being authentic:[6]

48 Bruntsfield Gardens
Edinburgh, I. O.

Telephone 54271
14-10-38.

The Society of Corresponding Members of the Royal Schools of Music, London, (The Royal Academy of Music & the Royal College of Music.)

Captain Edward S. Luce,
7th U. S. Cavalry,
Fort Bliss, Texas.

My Dear Sir:

Mr. John Miller, Registrar of the University of Edinburgh passed on to me your letter of Sept. 16th, 1938 in which you ask for information regarding "Garry Owen," your Regimental Tune. I have looked the matter up with no little pleasure to myself and trust helpfulness to you.

"Garry Owen"—(spelled "Garryowen" one word with us) is a very old Irish Tune, quite traditional, as no records of its author can be found. Thomas Moore the great Irish Poet wrote the words set to it, "We may roam thro' this world." It also appears in a "Book of Old Irish Songs," published by John Purdie, 83 Princes St., Edinburgh, early last century to the words "The Bosom that beats to a Brother's distress." (R. A. Smith Collection.)

Military Connection:

It was the Regimental Air of the Royal Irish Regiment, which is now disbanded; was also used by the 5th Royal Irish Lancers as a Quick March, Irish Guards, as a warning for parade. Roval Irish Rifles had it as their Regimental March originally, but was changed later.

The Queens Own Royal West Kent Regiment and the Durhan Light Infantry also used it occasionally.

In case there may be any doubt that we are thinking of different tunes, I enclose a short musical quotation of the Tune as we know it U. K. but I expect it will be quite correct, and I trust the information I have been able to give you will suffice for your purpose.

Very sincerely yours,
(Signed) WM. MARTIN HOBKIRK,
Hon. R. C. M. and Diploma of Raff
Conservatories Frankfort-a-Main.

[3] "The Daughters of Erin"—words by Thomas Moore (1779, 1852). Air: Garryowen. Edited and arranged by Granville Bantock, found in "One Hundred Folksongs of All Nations," published by Oliver Ditson Company, Boston, Mass., on pages 16 and 17 copyright MCMCI, by Oliver Ditson Company. In their "Notes on the Songs:" page XI—: "No. 11 The Daughters of Erin, Ireland. The air of "Garryowen to which MOORE has written these words, is undoubtedly an Irish dance-tune, and, as far as we know, was first printed in a collection of Scotch dance-music, Gow's Repository of Original Scotch Dances, 1802.

It first became popular in a pantomine-Harlequin Amulet—which was played in 1800, and is often used at the present day as a military quickstep. Garryowen is a suburb of Limerick, and is said to mean Owen's Garden. Authorities: Boosey: Songs of Ireland, p. 44. Moffat: Minstrelv of Ireland, p. 296. Brown and Moffat: Characteristic Songs, etc., p. 42. Bergreen: Folks-Sange og Medodier, Vol. IV, No. 35.

[4] From Poetical Works of Thomas Moore, Printed in England at the Oxford University Press—1865. Also in "Characteristic Songs and Dances of All Nations," by James Duff Brown, Published by Bayley & Ferguson, in 1901, London, England: Garryowen is best known as a dance or a military quickstep, but we have added Moore's Lively words, written for the number of Irish Melodies which appeared in 1807. (Found in the Widener Library, Harvard University, Cambridge, Mass., and the Library of Congress, Washington, D. C.)

[5] See Illustrated Review of the 7th U. S. Cavalry, 1910.

[6] The original of this letter is in the Historical Files of the 7th U. S. Cavalry, Fort Bliss, Texas.

Toujours Pret

THE date is the 12th of June, 1942. This day marks the close of another chapter in the colorful history of a colorful regiment. The troops are assembled for the last mounted review of the oldest regiment of cavalry in the Army of the United States. This is a parting salute, rendered by the officers and men of the Regiment to its horses. It is *au revoir*.

One hundred and six years ago this month the headquarters of the Regiment was organized, and three years later received its baptism of fire in the Seminole Campaigns in the Florida Everglades. It has seen service in every American war since. Its hoof prints have been marked on the scorched deserts of the Southwest, and its blood has darkened the mountain snows of Montana. Its Standards have flown in the Philippine jungles, in the mountains of Mexico, and on the battlefields of France in World War I. In that war, units of the Regiment were the only cavalry units of the American Army to serve mounted overseas.

Now a cloud of yellow dust rises to the south as the troops march on the field. The Commanding Officer, mounted upon his great brown gelding, has taken his post as Reviewing Officer, and at his rear are the officers of his staff.

The troops come on to the line and halt. The Commander of Troops presents them to the Regimental Commander. They exchange salutes, and together gallop down the line of troops for an inspection. They look upon cavalrymen who are splendid soldiers, hardened by the saddle, and bronzed by the desert sun. Horses, too, are physically fit, in good flesh and filled with spirit. To the older horses this review is a routine which they know well. To the hundred odd remounts, it is another new experience in the strange world of the military. These young horses paw the ground occasionally, and twist their necks constantly, ever on the alert.

The Regimental Commander and Commander of Troops then resume their posts, and the Adjutant summons the officers and guidons to the center. All officers ride forward in two lines followed by their troops guidons. They halt before the Regimental Commander, and guidons are dipped. The Commander of Troops dismounts and offers to the Regiment a handsome silver vessel to commemorate the termination by the Regiment of 106 years of continuous mounted service.

The Commander accepts on behalf of the Regiment. His message carries praise for work well done. He enjoins everyone to carry with him always the traditions of the Regiment, and to maintain its honor in whatever service he may be required to render.

The officers and guidons, rejoin their troops to pass in review. The troops swing down the field in a column of platoons at the trot, with raised pistols. The proud Regimental Standard is dipped in salute, and we see its 29 battle streamers, commemorating as many engagements fought by this historic regiment.

The ranks are straight, and the trot of the horses beats to the cadence of the field music. A buglar sounds GALLOP, MARCH, and the troops break into a smooth, rhythmic gallop around the field again.

The rifle and service troops gallop off the field in a curtain of dust, clearing the way for the gun troops to dash into action as a spirited climax to this review and parade. Instead of fighting always mounted, our cavalry troops have developed the methods of Bedford Forrest and Phil Sheridan. Mobility and fire power are ever our main characteristics, and the shock of that fire power is delivered from ground positions, taken by cavalry troops more rapidly than can be done by any other.

The Machine Gun Troop dashes forward now. Its troopers leap from their saddles and fling their guns into position. Now the signal—UP, meaning that they are ready to fire. The troop can lay its guns on a target within 11 seconds after the command is given to go into action from a gallop. The crisp command, OUT OF ACTION, brings fast response, and the troop gallops away to new missions.

The Special Weapons Troop, which can bring its heavy 81mm. mortars from horseback into action in considerably less than a minute, is poised on line, awaiting the signal to charge. Its gun is the heaviest pack in the cavalry. Now they move at the gallop, and men and guns hit the ground split seconds apart. Out of action now, and this troop mounts and rides into the dust—and on beyond into the mists of an uncertain future, following the hoof prints of gallant legions gone on before.

Animal transportation knows no end, and goes on forever. It maintains the mobility of armies over shell-torn wastes, mangled terrain, mud and snow. A salute to our noble charges! A toast to that time when mounted traditions and associations will be renewed!

Through more than a century of service under the Stars and Stripes, officers and men of this Regiment have fought and bled and died for duty, honor, country. They have scaled the rugged heights of mountains, and fought in the desert fastness. Through dust and scorching heat of summer, through snow and bitter cold of winter, the Regiment has known victory—and tasted defeat. Today they march toward new adventures in the unknown of tomorrow, taking with them the tradition, the heritage, and the determination to be in the future—as their predecessors were in the past—*Toujours Pret*.

NON COM QUIZ*

THIS QUIZ is a brief test of the knowledge which every cavalry noncommissioned officer should have of the problems and employment of pioneer and demolition units. Score 10 points for each whole question answered correctly. A perfect score is 110 and the lowest passing grade is 82. After answering all questions, refer to solution on next page.

TEST QUESTIONS

1. You are the corporal in command of the pioneer and demolition squad of a reconnaissance platoon on a reconnaissance mission. Your squad is following the second reconnaissance section in moving north on the unimproved north-south road shown on the situation sketch. The first reconnaissance section of your platoon is moving to the north on the main highway to your east. As the reconnaissance section command car reaches point "C," the point car reports the presence of a wire roll road block at "D." The leader of the reconnaissance section instructs you with your squad to remove the block since the terrain does not permit a detour.

a. What hostile measures for the protection of the road block will your squad probably have to overcome?

b. In general, how will you accomplish your mission?

2. While your squad is engaged in removing the road block, which you find to be undefended except for a few scattered antitank mines, a terrific explosion is heard to the east. The first reconnaissance section reports by radio that upon its approach, a hostile mechanized patrol withdrew across bridge "A" and immediately thereafter the bridge was blown up.

a. What is the probable situation at bridge "B" as indicated by this information?

b. What immediate action should be taken?

3. After careful scrutiny from concealment near bridge "B," you cannot detect any evidence of explosive charges on the bridge, nor the presence of a demolition guard. What is your next action?

4. If explosive charges had been detected, but the location of the demolition guard not determined, what action should have been taken?

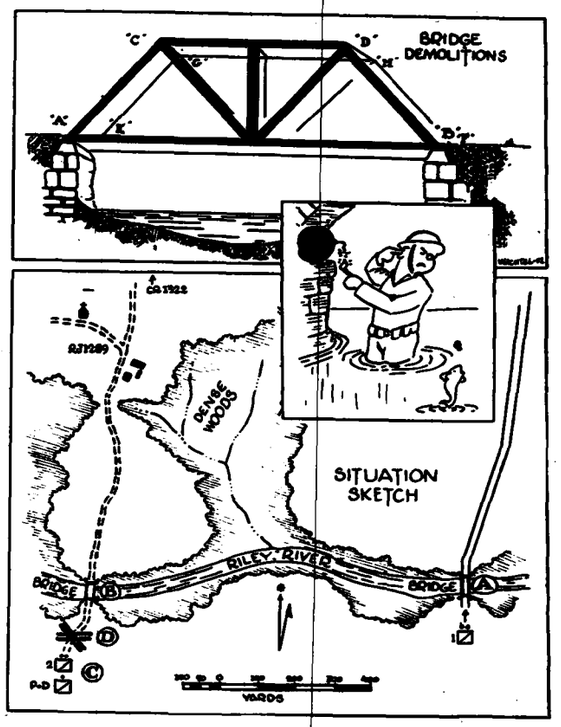
5. The bridge stringers (beams parallel to the longer axis of the bridge and which directly support the flooring) are steel I-beams, ten inches deep and twenty feet long. All component parts of the bridge are in good condition. For what load do you consider the bridge to be safe?

6. The reconnaissance section and the pioneer and demolition squad have advanced to the vicinity of CR 1322 when the following order is received from your platoon commander: "Air observation reports a large hostile armored force twenty miles north of the RILEY RIVER, advancing to the south at twenty-five miles per hour. This division will prepare a defensive position south of the RILEY RIVER line. The pioneer and demolition squad now accompanying you is to prepare BRIDGE 'B' over the RILEY RIVER for demolition and thereafter constitute the demolition guard. The demolition is to be completed on order of the Commanding Officer, Nth Infantry, or upon approach of the enemy in force. One car from the first section will provide security for the pioneer squad. Continue your advance." Noting the terrain five hundred yards north of bridge "B," what measure should be taken to gain more time and protection for the preparation of the bridge for demolition?

7. If you decide to lay a mine field, what should be the arrangement of the mines within the field?

8. What two measures must be taken for the protection of friendly vehicles?

9. What is the employment of the car providing security?



*Prepared under the direction of The Department of Tactics, The Cavalry School.

10. On examining bridge "B," you find it to be a through steel truss as in the sketched titled "Bridge Demolitions." Indicate on the sketch where charges should be placed to destroy the trusses, and indicate by an asterisk over the locations, which charges, if any, should be delayed.

11. If there are twelve square inches of cross-sectional area of steel in the upper chords of the trusses (members AC, CB, DB, and EG, GH, HF), and four square inches in the lower chords (members AB and EF), how much TNT will be necessary to cut all four corners of the bridge?

★ ★ ★

Solutions

1. *a.* At a well defended road block, all of the following protective measures may be present and must be overcome:

(1) Fire of small arms and antimechanized weapons.

(2) Antipersonnel mines.

(3) Antitank mines seeded throughout the obstacle. These may be activated; that is, embody antipersonnel features.

(4) Contamination by means of persistent chemical agents.

b. The corporal requests the leader of the reconnaissance section to dispose his section so as to support best the pioneers by fire. The pioneers, well dispersed, work forward to the obstacle, taking advantage of all available cover. A grapnel attached to a hand line is thrown across the wire rolls; the pioneers take cover as the grapnel and line fall on the wire rolls in event that antipersonnel mines are tripped. The line is then retrieved from a covered position and the road block pulled aside. Antitank mines are disarmed if the proper method is known for the type of mine found, or, if not, the mines are destroyed in place by individual charges of explosive, or lines are attached to the mines and they are pulled out of the way from covered positions. Buried mines are located by probing and then removed by the foregoing means, or are destroyed in place by the detonation of a "bangalore" torpedo (explosive filled pipe). Protective clothing and decontaminating agents must be employed against persistent agents. (See change No. 2, FM 5-30.)

2. *a.* Bridge "B" is probably also prepared for demolition.

b. Both leaders send all available riflemen forward on foot with the greatest secrecy and speed to dispose of the demolition guard and secure the bridge before their presence is discovered, and before the guard can receive orders to execute the demolition of the bridge.

3. The squad leader and his pioneers examine the bridge and abutments minutely for concealed explosive charges, or mines. (See FM 5-25.)

4. Both leaders send swimmers several hundred yards up and down the stream bank to swim the stream undetected and to locate and stalk the guard.

5. The corporal selects and applies the formula "$W = \frac{50d}{L}$" from the following, and finds the bridge to be safe for 12½ tons:

BRIDGE CAPACITY BASED ON STRINGERS

Steel stringers (Approximate formulas developed at The Cavalry School):

$W = \frac{25d}{L}$ (Beams under 10")

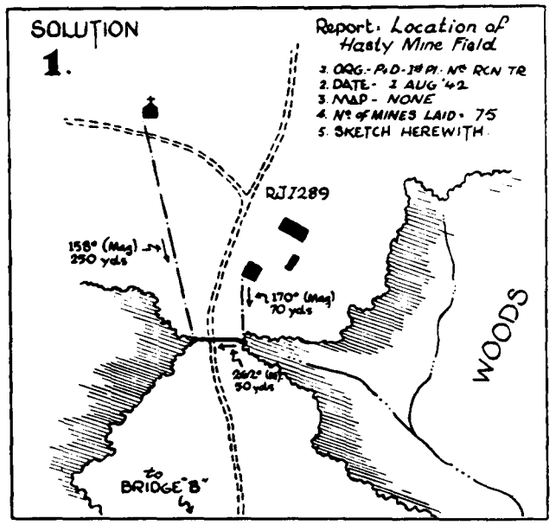
$W = \frac{50d}{L}$ (Beams 10" or over and under 14")

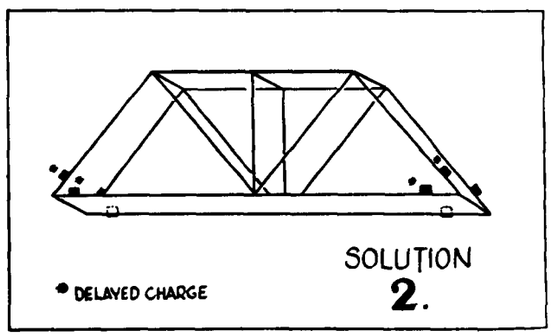
$W = \frac{75d}{L}$ (Beams 14" and over)

W = the maximum permissible load on the bridge in thousands of pounds. (Safety factor = 1 +)

d = the over-all depth of the beam in inches.

L = the stringer span in feet.





(NOTE: Even though application of formulas indicates a bridge to be unsafe, oftentimes in combat, the only excuse for failure to cross a bridge of doubtful capacity is the collapse of the structure and the loss of a vehicle.)

6. The corporal orders the pioneer and demolition squad to lay a hasty antitank mine field at the defile to protect the preparation of the bridge for demolition.

7. The mines are laid in four rows with a distance of eighteen feet between rows; the interval between individual mines in the first two rows in the direction of the enemy is twelve feet; the interval between individual mines in the last two rows is six feet.

8. The corporal sends a sketch in triplicate of the completed mine field to the Commanding Officer, Nth Infantry, and mounts a guard over the field. See sketch, Solution 1.

(NOTE: Normally, the report of the location of a mine field should be submitted to the next higher unit; however, in this case the corporal's platoon has displaced forward. If the corporal is unable to report the installation of the mine field to his platoon, he should request the Infantry Commander to inform the corporal's platoon of the mine field installation.)

9. The corporal disposes the personnel and weapons of the vehicle to cover the mine field with fire. If a gap is to be left in the field to permit the passage of friendly vehicles, the vehicle with driver may be sent out as a mobile outpost to give warning of the approach of hostile vehicles. Closing such a gap is simplified if the mines to close the gaps in each row are properly spaced on a rope or board which may be rapidly pulled across the gap.

10. Sketch, Solution 2.

11. The corporal selects the formula "N = ¾ A" from the following, and finds that it will require forty-eight half-pound blocks of TNT to prepare the bridge for demolition:

EXPLOSIVE FORMULAS

$N = \frac{d^2}{20}$ (External charge, timber)

$N = \frac{d^2}{125}$ (Internal charge, timber)

$N = \frac{3A}{4}$ (Steel)

$N = 8\,H^2T$ (Reinforced concrete bridges; use at least 10 inches of tamping; place charge over center of beam.)

N = the number of ½-pound blocks of TNT.

d = the least dimension of a timber in inches.

A = the cross-sectional area of steel in square inches.

H = the height of a concrete beam in feet.

T = the thickness of a concrete beam in feet.

Personality Is Key to Accidents

WAR workers liable to make the kind of mistakes that sink ships, lose battles, or explode munition plants can be weeded out by personality tests, Dr. Flanders Dunbar, of New York told members of the American Psychopathological Association recently.

The "accident habit" seems to be a personality trait like stammering or alcohol addiction, associated with well-defined emotional factors.

People who are always falling down or getting into automobile accidents are characterized by a love of adventure and resentment of authority. Dr. Dunbar suggested that they would do well in non-routine jobs utilizing individual initiative, such as Commando units, and badly in a war job that required implicit obedience.

These characteristics of the "accident personality" were revealed in a study of 1,500 hospital patients suffering from heart diseases, diabetes, and fractures. Each of these groups showed certain well-defined personality traits that distinguished them from the others. It was found that the majority of fracture patients had had three or more serious accidents, and these patients were then studied as the "accident type."

Hope of using personality tests to prevent accidents on wartime jobs was seen in the successful results obtained by the inkblot test in diagnosing the "accident personality." In this test the individual looks at a carefully selected series of black and colored inkblots and tells what sort of picture or object the rather fantastic shape makes him think of. His answers give psychologists clues to his past experience, interests and personality.—*Science Service.*

New Remount Head

THE office of the Quartermaster General in Washington has announced that Colonel Edward M. Daniels has succeeded Colonel Edwin N. Hardy as chief of the Remount Division.

Colonel Hardy has left the Remount service to fill the office of post commander at Fort Huachuca, Arizona. In 1939 he succeeded Colonel Thomas J. Johnson as chief of the Remount Division, and since that time he has worked assiduously for the betterment of the breed, especially for the Army. That his diligence has borne fruit is evident in the vast improvement of present-day Army remounts over those used in the World War.

A firm believer in the importance of horses, Colonel Hardy declares that as the war progresses, there will be an increasingly greater use of horses for civilian as well as for military purposes and that they will be of inestimable value in the period of adjustment following the war. He is convinced that the scope of the Remount work will increase rather than diminish, especially if the United States will coöperate with our Latin-American neighbors in helping them to improve the quality of their horses.

Colonel Daniels, the new Chief of the Remount Division, was born in Waterbury, Connecticut, November 29, 1894, and was commissioned second lieutenant in the Field Artillery on August 17, 1917. On May 20, 1918, he went overseas with the 79th Field Artillery, with which he served abroad from August, 1918, to June, 1919. Just prior to this organization's return to the United States, Colonel Daniels was transferred to the Military Police Corps. This duty required his services abroad for eleven additional months, thus delaying his return to the United States until May, 1920.

Upon his arrival in the States, he was immediately assigned to the 5th Cavalry with station at Marfa, Texas, and served on the Mexican border until 1925. During this tour of duty, he received two promotions in rank, becoming a captain in July, 1920. During the years 1925 to 1927, Colonel Daniels attended the Cavalry School Troop Officers' course and the Special Advanced Equitation course at Fort Riley, Kansas. In these courses he showed great aptitude, and upon graduation became a member of the Army Horse Show Team during the year 1928.

His next tour of duty was with the 3d Cavalry at Fort Myer, Virginia. Eight months later the colonel was detailed to duty with the Quartermaster Corps at the Front Royal Quartermaster Depot (Remount), Front Royal, Virginia. Colonel Daniels' duty with the Remount Service, therefore, began in April, 1929, and from that date to this he has served uninterruptedly with this Division of the Quartermaster Corps.

In the fall of 1930, Colonel Daniels was transferred to Colorado Springs, Colorado, where he became Officer in Charge of Southwestern Remount Area. During the ensuing five years in that Area he purchased many horses which later became famous as show horses with the Army Horse Show Team and as polo ponies played in high-goal Army polo. Some of these ponies were developed by the Colonel himself while playing with the United States Remount Polo Team of Denver, Colorado. Handicapped at four goals, the Colonel played at either No. 1 or No. 2 position, and with this team enjoyed four years of winning polo.

In July, 1935, he was ordered to leave Colorado Springs to become commanding officer of Reno Quartermaster Depot (Remount) Fort Reno, Oklahoma. Here he remained for six years and during this period, that depot grew into what it is today. A new detachment building, headquarters building, numerous stables and veterinary facilities were constructed. The entire post was rehabilitated and is now capable of handling from 10,000 to 12,000 animals. Also, during this period the Colonel was promoted to the rank of Lieutenant Colonel. Then in August, 1941 he was ordered to Robinson Quartermaster Depot (Remount), Fort Robinson, Nebraska as commanding officer. His tour of duty was very short because in March, 1942 he was ordered to Washington to become Chief of Remount to succeed Colonel Hardy.

Protect Army Horses

U. S. Army horses are being protected against possibilities of a fresh outbreak of sleeping sickness next season. The army has inaugurated a systematic program of immunizing horses against the disease which has killed so many farm horses in recent years. The work is being done by army veterinarians, using two doses of chick embryo vaccine.

Induction of An Army Horse

PROOF that "Private Dobbin" still plays an important part in warfare is seen by the successful use of the horse by the Germans in the Polish campaign and by the Russians in the Ukraine. Dobbin can go through rain or snow, across all kinds of terrain, inaccessible even to a Jeep. He is very much a part of Army life.

Young Dobbin, prior to his induction into the Army, takes just as strenuous a physical examination as does Johnnie Q. Public upon request of his local draft board. Only when Dobbin is rejected by the Army, he doesn't get a 1-B Classification. He stays in civil life.

He must meet certain requirements or else he is rejected. The officer in charge of the respective Remount Areas announces designated spots where horses will be bought and cowboys and ranchers bring young Dobbin in by truck, trailer or on horseback to the purchasing board, where he is given a thorough going over. Hoofs, muscles, teeth, height, weight, and gait are all carefully studied.

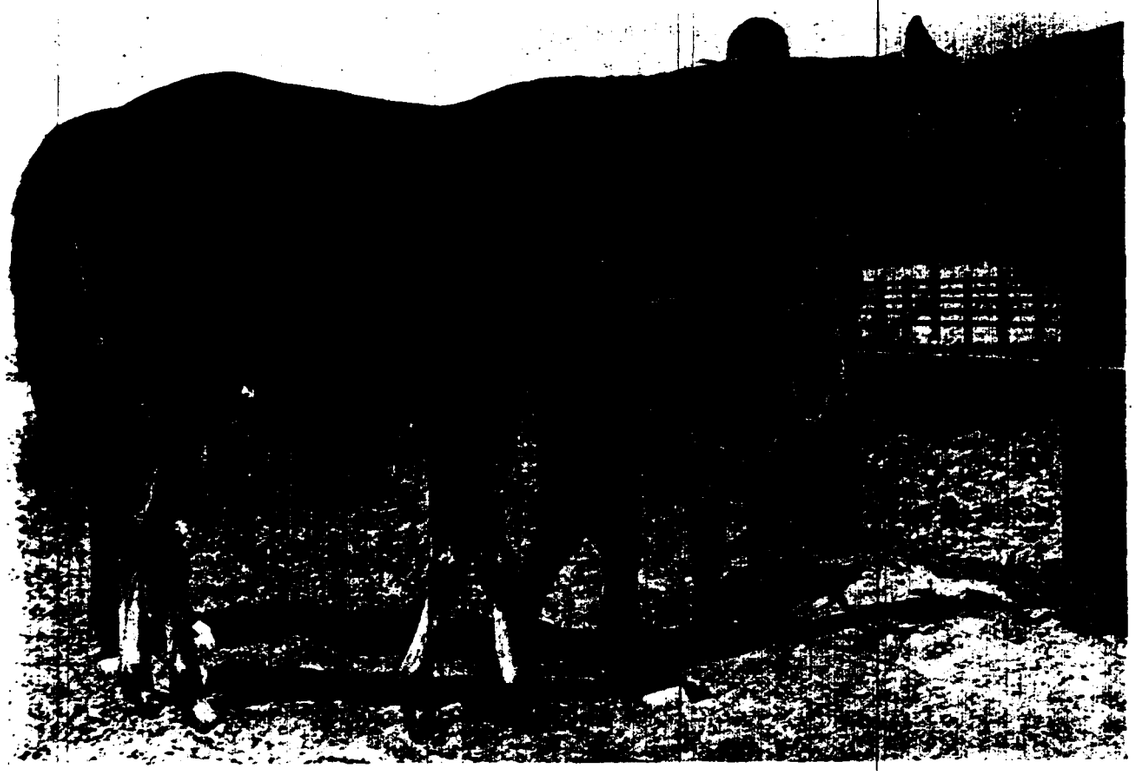
Markings are also important. Grays, pintos, appaloosas and light-colored horses are rejected, since they are too readily visible to the enemy. Brown and black colored horses are generally chosen, with a minimum of white markings.

Finally, Dobbin is saddled and put through a walking, trotting and galloping test. (Any unrideable horse is crossed off the list.) All information concerning him is recorded by a purchasing officer in a notebook for future reference.

If the purchasing officer decides that he should be "inducted" for the Army, he offers the owner a certain price, which the owner accepts or rejects. The average price paid is $165.

After "induction," a temporary purchasing brand is painted on his back in Silver Nitrate, such as X-37, which is put in the books for later identification purposes. He is then sent to a designated loading point, and arrangements are made by the Remount officers to ship him by rail to one of the three Quartermaster Remount Depots—Front Royal, Virginia; Fort Robinson, Nebraska; and Fort Reno, Oklahoma—where his Army life begins. There he is conditioned prior to active service in the Army.

Upon arrival at the Remount Depot, Private Dob-



Sometimes the Government gets two for one. This little "Ray of Sunshine" was foaled at The Cavalry Replacement Training Center six months after it was received from the Remount Depot.

bin is put in a veterinary area, an isolated pen, where he remains for 48 hours, being fed nothing but hay and water. This is his first adjustment to Army life.

He is then taken and put through a chute, a narrow passageway just wide enough to pass one horse. Soon he is given his Preston brand number, consisting of three numerals and one alphabetical letter, such as T123.

Dobbin is kept in the pen for two weeks. On the third day he is mallained, that is, inoculated for encephalomyelitis (sleeping sickness) and tetanus (diptheria). He is inoculated again seven days later. A veterinary officer watches the horse with great care to see that he does not develop a cold or running nose.

The two weeks' period over, he is turned into a pasture. At the same time his diet is increased to include oats, corn and bran. There he remains for two to four weeks. This is the most critical time in the animal's life, for during this period he is apt to contract all kinds of serious diseases, such as strangles, influenza and pneumonia.

Quartermaster Remount officers, veterinary officers and enlisted men check the horse at least six times a day. If there is the slightest thing wrong with him, he is treated in a field chute. If he becomes quite sick, he is promptly taken to the veterinary hospital.

After spending some time in the pasture, the horse is brought into the dipping vat area where he is dipped in a solution of sulphur and lime to counteract any ringworm. If he has a bad case, he is dipped again within four days.

Soon thereafter Private Dobbin is put through another chute. In fact he is given a treatment not equalled by milady at the beauty parlor. With three men attending him, he is clipped, his mane is roached down, his feet are trimmed, and any small injuries are observed and treated. After getting "the works," he is returned to the pasture where he remains for 10 to 14 days.

His period of rest over, Private Dobbin is led from the pasture into the processing stable where he receives his first training. A bridle and saddle are put on him, and for the first time he is ridden. All of his characteristics are recorded, both good and bad, such as: *gentle, tractable* or *wild, kicks, nervous.* If he is gentle, he is marked as suitable for issue. If he is wild, he is ridden until broken before he is issued.

When an order comes out requesting a certain number of horses, the Remount Division supplies horses from Remount Depots to the designated unit. Many horses are sent to the 1st Cavalry Division at Fort Bliss, Texas, or to the Cavalry Replacement Center at Fort Riley, Kansas. A complete history of each horse is mailed to the commanding officer.

Army Horse Breeding Program Progresses

THE Army Horse Breeding Plan is the very core of the Remount Division of the Quartermaster Corps. A suitable number of military horses must be supplied to the Army each year, and this necessitates carefully planned breeding. Throughout the various Remount areas, mares are now being bred to high-class stallions. From a recent report it was estimated that a total of 18,759 mares were bred during 1941, with 724 stallions at stud, the War Department announced today.

The most predominate Army horse bred during 1941 was the Thoroughbred, numbering some 17,983 mares with 688 stallions at stud. The drop to the next most popular breed in the Army, the Arabian, was great, with only 375 mares bred and 16 stallions at stud. After that, in order of the greater number, came the Morgan, Saddlebred, Anglo-Arabian, with the Cleveland Bay winding up the list with eight mares bred and one stallion at stud. No East Prussian horses were bred last year.

Taken by area or depot, the following horses were bred during 1941: Eastern Area—950 mares with 46 stallions at stud; North Central Area—3,872 mares with 124 stallions at stud; East Central Area—938 mares with 51 stallions at stud; South Central Area—4,205 mares with 160 stallions at stud; Northwestern Area—3,950 mares with 165 stallions at stud; Southwestern Area—1,888 mares with 89 stallions at stud; Western Area—2,728 mares with 95 stallions at stud; Front Royal Quartermaster Depot, Virginia—109 mares with 7 stallions at stud; Reno Quartermaster Depot, Oklahoma—62 mares with 3 stallions at stud; and Robinson Quartermaster Depot, Nebraska—57 mares with 4 stallions at stud. There were approximately 25.9 mares to one stallion.

In comparison with the 1940 breeding figures, 808 more mares were bred during 1941. Foals reported born during 1941 numbered, 11,409. This is a low figure since many births were not reported. The greatest number, 11,028, were Thoroughbreds. Foals born during 1941, according to area or depot, were as follows:

Eastern Area—614 foals; East Central Area—318 foals; North Central Area—2,326; South Central Area—2,829 foals; Northwestern Area—2,089 foals; Southwestern Area—1,196 foals; Western Area— 1,880 foals: Front Royal Quartermaster Depot, Virginia—74 foals: Reno Quartermaster Depot, Oklahoma—41 foals; and Robinson Quartermaster Depot, Nebraska—42 foals. With 1942 well on its way, the births of many foals are now being reported.

"Bandy", An Equine Inductee at C.R.T.C.

FOLLOWING his preliminary training at the Induction Center (Remount Depot), Bandy is sent to the Cavalry Replacement Training Center at Fort Riley, Kansas, for further training in his military career.

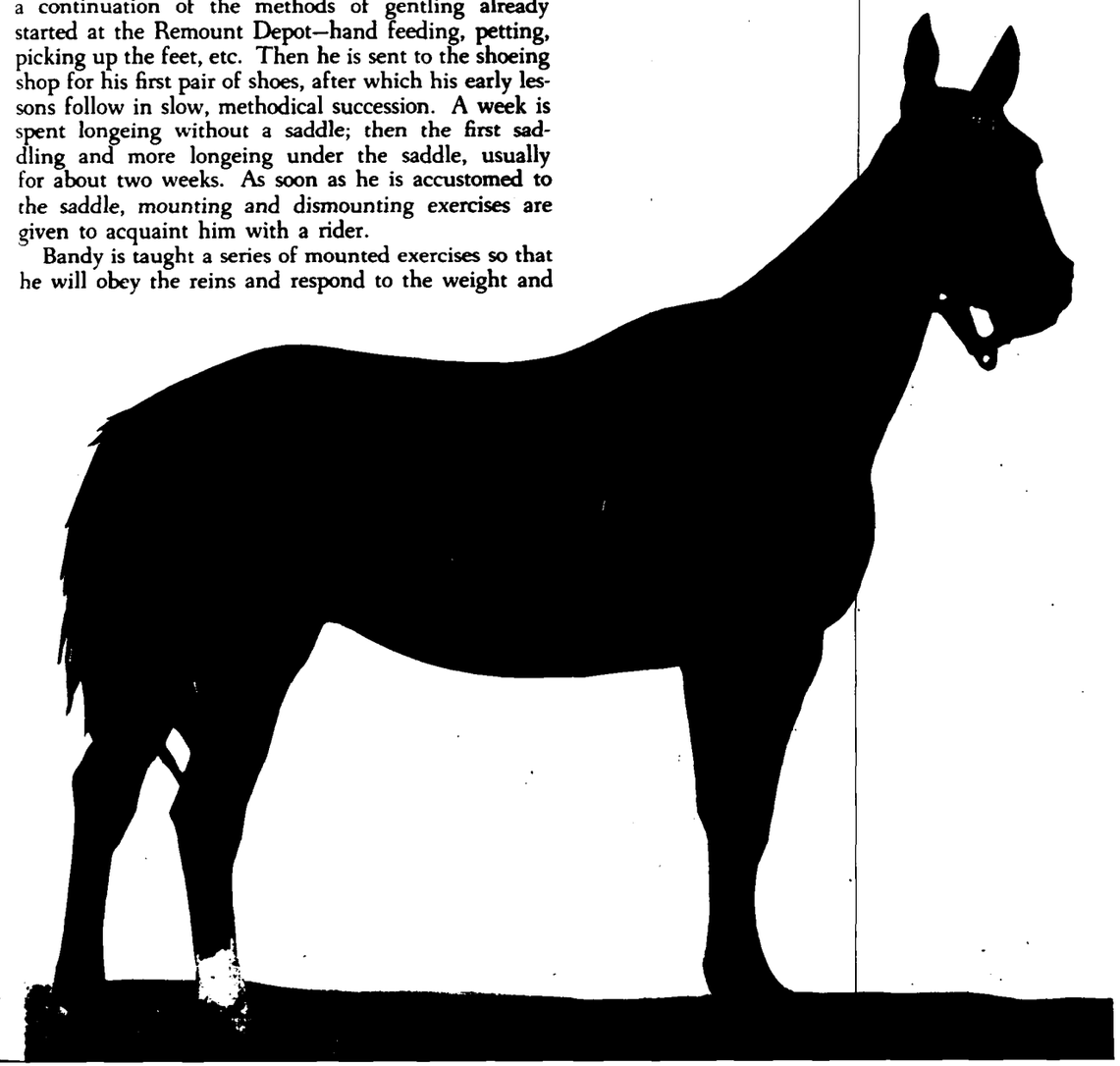
After his arrival at the Replacement Center and a short period of quarantine, Bandy, like his human contemporary, gets his series of "shots." He is inoculated at the Veterinary Hospital against sleeping sickness, tetanus, and glanders; then he must go into the dipping chute where he is immersed in a solution of lime and sulphur to rid him of ring worm, lice, and other parasites. Meanwhile, he is assigned to a clean, roomy, well-ventilated and lighted stall in the "Horse Barracks."

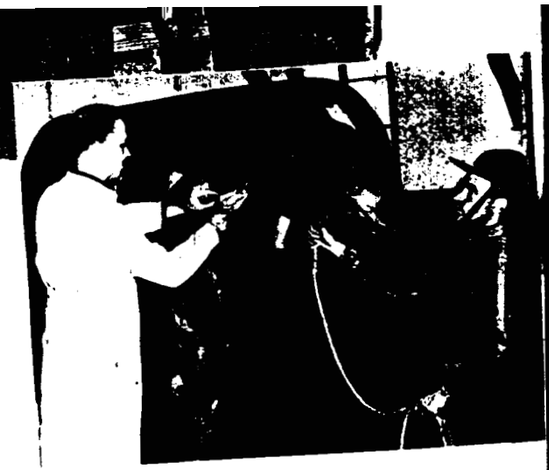
Now comes the important step in Bandy's army career—preliminary training. This has been planned and discussed by the selected men who will participate in training him and the other remounts. First, there is a continuation of the methods of gentling already started at the Remount Depot—hand feeding, petting, picking up the feet, etc. Then he is sent to the shoeing shop for his first pair of shoes, after which his early lessons follow in slow, methodical succession. A week is spent longeing without a saddle; then the first saddling and more longeing under the saddle, usually for about two weeks. As soon as he is accustomed to the saddle, mounting and dismounting exercises are given to acquaint him with a rider.

Bandy is taught a series of mounted exercises so that he will obey the reins and respond to the weight and legs of the rider. These exercises include work on the leading and bearing reins, decrease of gait (often as many as a hundred times in each training period), shoulder in (to teach him to relax and become supple and most valuable in horse gymnastics).

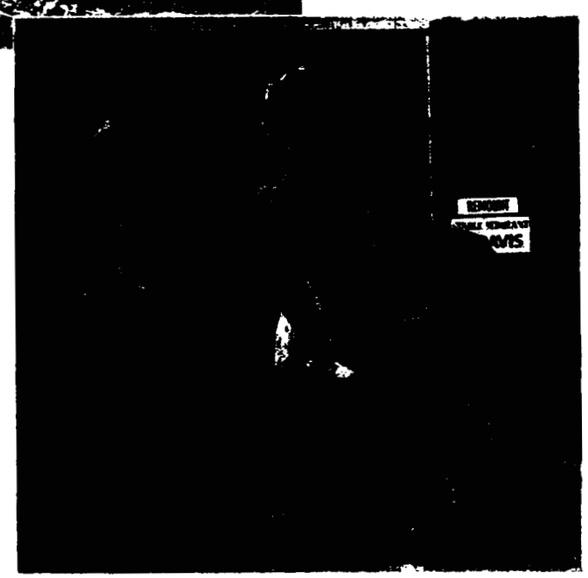
Now Bandy is ready for his advanced training. He learns to jump over low obstacles, gradually increased in height; to move rapidly but at controlled gaits over rough terrain; to gallop calmly during mounted pistol firing; to negotiate steep slides; and to take his place with other horses at troop drill.

Finally, after weeks of hard and tedious training days he is ready to leave the ranks of the "trainee" and to take his place beside the "old trooper," ready and willing without growl or grumble, to sacrifice his life if need be in the defense of his country.





"Bandy" as a "Trainee"—



and finally, as a trained "Trooper."

Thoughts for Newly-Appointed Officers

*By Colonel Troup Miller (Cavalry), I.G.D.**

THERE are so many new officers, especially junior officers, entering the Army of the United States during the existing emergency, that it seems an appropriate time to point out to them some of the matters in their daily lives with which they are going to be vitally concerned.

They will find much valuable material to study in the many manuals furnished them, such as, "Military Courtesy and Discipline, F.M. 21-50," but the discussion which follows is intended to treat certain subjects in a somewhat different style from that adopted in the printed text.

One of the first and most lasting impressions made by a new officer upon his superiors, as well as his contemporaries, is reflected in his personal appearance. If he is well groomed and his uniform and equipment are spotless and worn strictly in accordance with regulations, he need not say or do anything to make that *first* impression. His appearance will brand him at once as a careful, thoughtful officer, and he will have laid one of the foundation stones of his military career.

Military Character

One of the first things a young officer should do is to procure a blank efficiency report form and examine the various items upon which he is going to be rated by his superiors. The newly appointed officer should not be kept in ignorance of the various subjects which are going to form the very basis of his military character. These subjects have been carefully selected by the War Department, and the ratings under them constitute the standard by which the efficiency of an officer may be judged.

Some officers belittle the value of the efficiency report, claiming that its use does not truly reflect the officer's military character, as the reporting officer cannot be wholly impartial in preparing the report; that he is either prejudiced for or against the individual reported upon, and therefore cannot truly represent the qualities possessed by this officer. But it has been the experience of this writer that many reporting officers make it a rule to perform this duty with a great deal of care, and as a result submit reports which give a fairly true picture of the military character of the officer reported upon.

It should be remembered that the real value of an efficiency report upon an individual officer lies in its being extended over a number of years and being prepared and reviewed by a number of different officers. The composite result is very apt to be a fairly accurate representation of the officer's military character.

So, the "shavetail" may find his time well spent in studying the efficiency report. He should remember from the very first that someone is observing him all the time, that he is making an impression on someone every day of his life. That impression will usually either be favorable or unfavorable; seldom will it be indifferent or colorless. An officer's general demeanor, his speech, his acts, his habits, his associates, his personal appearance, are all factors which contribute to the impression which he is making. It is considered particularly important, therefore, that a young officer should have these matters brought to his attention early in his military life in order that he may govern his conduct accordingly.

A young officer in the early months of his service should be an attentive *listener*. He will hear much of benefit to himself, and will soon learn to discriminate and reject that which has no merit. He should be careful not to talk too much, and by all means refrain from telling his commanding officer how to run his organization, however much he may think he knows about it. He should remember that much may be learned by association with other officers and constant observation of their methods. His quiet, dignified demeanor may serve not only in helping to develop his own military character, but may prove a profitable example to some other officer.

Drinking by officers has always been a serious subject in our Army, and the question has been handled by commanding officers in various ways. The main thing to bear in mind is that officers are expected to conduct themselves like any other group of gentlemen. Drunkenness among them will not be tolerated. By practicing moderation in their drinking habits, officers will not only safeguard their health, but will add prestige to their military character. Drinking to excess has been the downfall of many an officer who otherwise might have proved a valuable asset to the Government. The practice of abstemiousness will be of great assistance to an officer in controlling similar habits among the enlisted men entrusted to his care.

An officer, particularly a troop company officer, should learn to budget his time. His troop duties will require much of his attention, but the spare time at his disposal should be utilized to the best advantage. Much studying will be required of him, but he should keep ever present in his mind the thought that his first duty to himself is to keep physically fit. To this end, he should participate in some daily profitable physical exercise, provided his troop duties have not already supplied it for him. Appropriate recreation in this connection is also an important consideration. The goal of military training is fitness in combat, and this fitness means first, physical fitness.

Leadership

There is nothing in the military life of the newly appointed officer more important than his relations with the enlisted men of his command. Much can be said on this subject, as it covers all the attributes of leadership, but only the salient features will be touched upon in this article, in the hope that the suggestions made may be of use to the inexperienced officer in his early service.

It is important that each officer early in his military career should devote himself enthusiastically to the problems of leadership. To be a good leader of men an officer must possess those qualities which will inspire their respect, their loyalty and their obedience. He should be on guard constantly to insure that he does not commit any act or say anything which will lower their respect for him, for as soon as the men lose respect for their commander, their loyalty and obedience suffer a set-back and his usefulness in his organization is seriously impaired.

Upon joining his organization, the new officer will find a group of keen, enthusiastic, loyal Americans, a few well trained, some partly trained, and some untrained, all of whom will be looking to him for instruction and guidance. They are the fighting men of the nation and the task of the officer is to train and educate them in their military duties, make good soldiers of them, and afterwards to lead them in battle.

These men are all willing, most of them young, and all of them eager to learn, and they will immediately look upon their new officer as their leader, instructor and general counselor. They are perfectly ready and keenly desirous to follow him so long as he can convince them that he possesses those qualities which mark the successful military leader. After their respect for him has been firmly established, he may have little doubt about commanding their loyalty and obedience. These two essentials to successful leadership will naturally follow when the officer by his actions and his treatment of his men has convinced them of his ability and his interest in them, and has aroused their admiration for him.

The officer should not forget that he is under the constant scrutiny of his men. They are close observers, and he will find them quick to notice such things as his carriage, his dress, his manner of speech, and whether or not he has a real interest in them. Some of them will be inclined to imitate him. He therefore has the tremendous responsibility of being an example to his men in all of those qualities that go to make the good soldier.

Soldiers become as much attached to their officers when they have proven their worth, and are just as proud of their accomplishments, as the officers are of the fine group of men which they command. A good officer is an ever-present inspiration to his men and a constant incentive for them to become better soldiers.

Discipline is the foundation upon which an army is built. It should be so inculcated in a military unit until a point is reached where it is embodied in each individual member of that unit as a fixed mode of living. An officer, therefore, who in his own person embodies the desired type of discipline, will be able to attain his goal in training his men by making of himself a living example of conduct for his men. His authority will be assured even in the most difficult situations if his sincerity is perfectly obvious and his men willingly acknowledge him as their leader.

The commander therefore must cultivate a high degree of self-discipline, both on and off duty, and should strive to attain a certain steady and calm self-assurance of manner. "Self-confidence results from exact knowledge and the ability to impart that knowledge, and from the feeling of superiority over others that naturally follows. It is the result of knowing more than your men." The ambitious, studious officer who conscientiously applies himself to his various tasks will soon become so well informed that he will find that he is developing a strong sense of assurance and confidence in himself. He finds himself becoming familiar with the sound of his own voice, and is giving orders and discharging his many duties without embarrassment and without hesitancy. He is gaining that poise and self-reliance which is such an asset in all of his military contacts.

Among the officer's first contacts with the enlisted men comes the salute, the salutation between military men in which the junior renders the first greeting. An officer should return the salute of an enlisted man just as promptly and carefully as it is required to be rendered by the soldier. The obligation on the part of the officer to return the soldier's salute *properly* is just as binding as it is upon the soldier to render it. In executing the salute the soldier is required to turn his head and observe the officer saluted. It is therefore incumbent upon the officer to look at the soldier in acknowledging his salute. The soldier is entitled to the same recognition which he has shown the officer.

Indifference or carelessness on the part of an officer in returning the salutes of soldiers will soon be reflected in indifferent saluting on their part. It is an old saying in the Army that the discipline of an organization can be judged by the manner in which the men salute. The saluting of the men, then, may be accepted as a true reflection of the military character of their commander. The officer who has established himself among his men as a real commander will soon find that his men will salute him with a great deal of pride.

Much can be learned by newly appointed officers from the older experienced noncommissioned officers. The noncommissioned officers, especially those who make a profession of soldiering, are the very backbone of our Army. The officers of an organization come and go, and the short term enlisted men in time of peace put in a "hitch" and then move on, but the older noncommissioned officers remain in their grades for one enlistment after another and they are the ones to whom we are indebted for maintaining the *esprit* and traditions of our regiments. They are the recruit instructors and they are largely responsible for the training and discipline of an organization.

*Inspector General, Eastern Theater of Operations.

The noncommissioned officers should be made to realize that they are the commander's right-hand men and that they hold a position of trust. They must be made to feel responsible for the organization property, for the good name of the troop or company, and for the welfare of the men entrusted to their leadership. This responsibility must be accepted by them not as a burden, but as an enviable distinction.

A good noncommissioned officer is entitled to and deserves a great deal of respect and consideration from his officers. He should be impressed with the fact that he has been especially selected from his fellow soldiers to carry greater responsibilities and that a high degree of confidence and trust has been placed in him. He should be carefully instructed in his duties and given firm support in the execution of them.

The old first sergeants of our Army who know their jobs so well fully appreciate the difficulties confronting the newly appointed junior officers. They will be found to possess a very sympathetic understanding of the officers' problems, and it would be well to cultivate them. They are among the Troop Commanders' first helpers and they exert a tremendous influence among the other noncommissioned officers of the organization. Their position is one of great responsibility and they should enjoy a greater measure of the confidence and consideration of the Troop Commander.

Again and again every Commanding Officer should stop to remind himself that his noncommissioned officers more than anyone else in the Troop will regard him as an example to imitate, and that his bad traits will be copied along with the good. If he is rigid and precise in his bearing, they will try to equal him in that. If he relaxes his self-control, a similar reaction will soon become evident in the noncommissioned ranks. "An officer can be a power for good or a power for evil."

Under no circumstances should an officer indulge in profane or vulgar language in the presence of enlisted men. The use of vulgar expressions is unworthy of an officer, and such expressions insult and dishonor the men to whom they are addressed. Using language of that sort can only serve to lessen the men's respect for their officer.

Some officers seem to think that they are making a more forceful impression upon their men by interjecting profanity in the instruction being given by them. An officer who cannot express himself without the assistance of profanity is constantly giving a conspicuous demonstration of a marked deficiency in his character. The chances are that for every man whom he has favorably impressed, there will be two or more who will have lowered him in their estimation. He is therefore seriously damaging one of the essential qualities of leadership previously mentioned, that is, the one which commands their respect.

All officers should guard meticulously against cursing an enlisted man. It is not only a cowardly thing to do, for the man can make no reply, but it is highly reprehensible from every point of view. Furthermore, it is an outstanding illustration of lack of self-control, a characteristic which every officer must possess. Also familiarity should be avoided, for your men will respect you more if you will always maintain a dignified, though friendly, bearing towards them. No opportunity should be neglected for establishing bonds of friendly confidence between the officers and their men.

Likewise, the giving of instructions to enlisted men in a loud, boisterous manner is not conducive to good discipline in a troop. A loud-mouthed, roaring Captain will soon have a noisy and unrestrained organization, and wonder why he is making so little progress with its training. Firmness is a military requisite, but harshness has no place in military relations.

Never, if it can possibly be avoided, should an enlisted man be severely admonished or corrected in the presence of other men. This is especially true of noncommissioned officers. Such practice, if continued, is sure to undermine the very foundation upon which your organization is built.

In this connection we should not forget that there are times when an enthusiastic word of praise is very effective. It is a human characteristic, common to us all, to feel elated over favorable comment by our superiors upon work that we have done and such an encouraging word invariably inspires better efforts on our part.

It is wise to make a rule early in one's service not to loan money to enlisted men except in extreme emergency, for several reasons. There is usually a welfare fund in most stations which has been created for the purpose of meeting emergencies which may arise among enlisted men. This fund is usually administered by the Chaplain under supervision of the Commanding Officer. It should therefore not be necessary for an officer to loan money to enlisted men. In case such money is loaned, the officer may find himself later in the embarrassing position of trying to collect the money from the soldier or suffering a financial loss. As soon as the men learn that the new officer is not a money lender, they will soon stop approaching him on the subject.

Practically all officers are instructors throughout their military careers. In order to instruct properly the instructor must thoroughly master his subject. American soldiers as a class, particularly those comprising the War Army, are very intelligent individuals. It does not take them long to learn whether or not their officers understand their business. Men will not have confidence in an officer unless he knows his business and he must know it from the ground up. The new officer may be able to fool some of them for a short time, but he will never be able to fool all of them all the time. "There is no substitute for accurate knowledge."

If the officer is giving instruction in the tactics and technique of a certain weapon, he *must know in detail* everything that is to be known about that weapon and be able to handle it himself. Nothing is so impressive in giving instruction as to be able to demonstrate successfully one's own ability to do the thing which he is telling others how to do. It is not difficult to explain to a recruit how he may hit the bull's eye on the target range, but it would be far more effective to take the recruit's rifle, in addition to explaining the process to him, and center a shot in the bull's eye yourself.

Finally, every officer should work and live in such manner that his military leadership will be freely acknowledged by his men because it furnishes for them a lofty example of cheerful responsibility, superior ability and untiring devotion to duty.

Beware of loan sharks! There are many loan companies throughout the country who are quick to obtain the names of newly appointed officers and make loan proposals to them. Attractive terms are offered, requiring nothing but the signature of the individual, and making it appear that the money is to be returned at the convenience of the borrower. Many young officers have fallen easy prey to such propositions, and have later wished that someone had warned them against such agencies.

Funds and Property

There is no subject confronting a newly appointed officer which has associated with it more potential grief than the care and safeguarding of non-appropriated funds and public property. Many junior officers are wholly inexperienced in the handling of funds and property.

It should be remembered that unit and similar non-appropriated funds are *official* funds and require the same careful supervision as do appropriated public funds. Officer custodians of such funds, particularly newly assigned officers who are handling these funds for the first time, are enjoined to study AR 210-50, which clearly set forth the provisions under which these funds are administered. These regulations charge the duly appointed custodian with receiving, safeguarding, disbursing and accounting for these funds. *This means that the custodian must perform these duties personally.* He cannot delegate this responsibility to any other person. An officer custodian of such funds may be assisted by an enlisted man in keeping the records of these funds, but under no circumstances should he attempt to place any responsibility upon the enlisted man for safeguarding the funds. He should also scrupulously resist the temptation to borrow from such funds. Such action can be regarded in no other light than a misappropriation of official funds, and may lead to serious consequences for the custodian.

To insure these funds against loss, great care must be exercised in handling them. Upon receipt, they should be placed as early as practicable in a bank, which, if possible, is protected under the Banking Act. Under no circumstances should they be permitted to remain unduly long upon the person of the custodian, in a desk drawer, or in any other unprotected place.

If the custodian is so situated that it is not practicable for him to deposit the funds in a bank within a reasonable time after the receipt of same, he should take the necessary steps to procure an office safe or apply to his commanding officer for a suitable place to deposit the funds. If an office safe is provided, the custodian *alone* should know its combination and this combination should be carefully guarded by him. Large amounts of money taken to and from a bank should be properly guarded during transit.

The custodian should constantly bear in mind that any losses in these funds due to his negligence must be borne by him. He cannot expect a Board of Officers to relieve him of responsibility for such loss unless he has taken every reasonable precaution to safeguard the funds.

Public property in the possession of an officer requires the same careful supervision as does the handling of funds. Much of it is of such value and character as to be easily removable by unauthorized persons.

Officers responsible for such property, particularly officers inexperienced in its care, are enjoined to study AR 35-6520 which prescribe the provisions under which the property will be handled. These regulations clearly indicate the duties of the accountable and responsible officers in receiving, storing, issuing, safeguarding, and accounting for the public property in their care. Upon receipt of public property by an officer it should be carefully verified by him *personally*. He is the responsible officer, and he cannot entrust this duty to any other person.

To protect public property against loss, great care must be exercised in handling it. Upon receipt, it should be stored as soon as possible in a properly safeguarded storeroom or storehouse. The ideal storeroom is one with iron bars or heavy iron grating or screening on doors and windows and suitable locks on all doors and windows. The keys should be carefully safeguarded by the responsible officer.

If the responsible officer is forced to store public property in a tent, the tent should be floored and sealed throughout with suitable material and equipped with a substantial door with a suitable lock. A further precaution is to have a trustworthy enlisted man sleep in the tent.

All small arms should be kept securely locked in arm racks and arm chests and the latter made further secure by bolting them to the floor. Under no circumstances should small arms or ball ammunition be permitted to remain loose in the storeroom or storage tent.

The responsible officer should satisfy himself that proper guard is furnished around the storehouse or tents in which the public property is stored.

He should be ever conscious of the fact that any shortages or loss of public property due to his negligence must be paid for by him. Should such loss occur he can expect favorable consideration by a Board of Officers only when he has taken every reasonable precaution to safeguard the public property.

ROTC Training at Norwich University

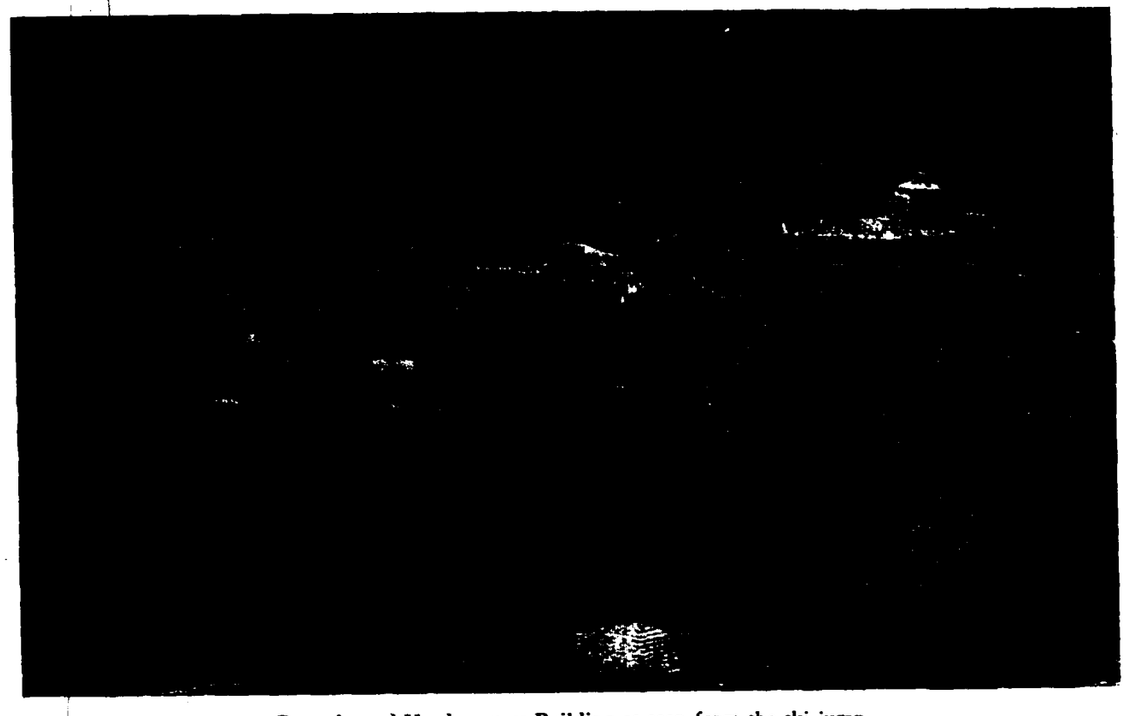
*By Colonel George S. Andrew, Cavalry**

THE Army is now drawing substantial dividends from the ROTC program established by the National Defense Act some twenty years ago. Since the enactment of legislation expanding the Armed Forces, and especially since December 7th, military training in colleges and universities which have ROTC units, has taken on an added importance.

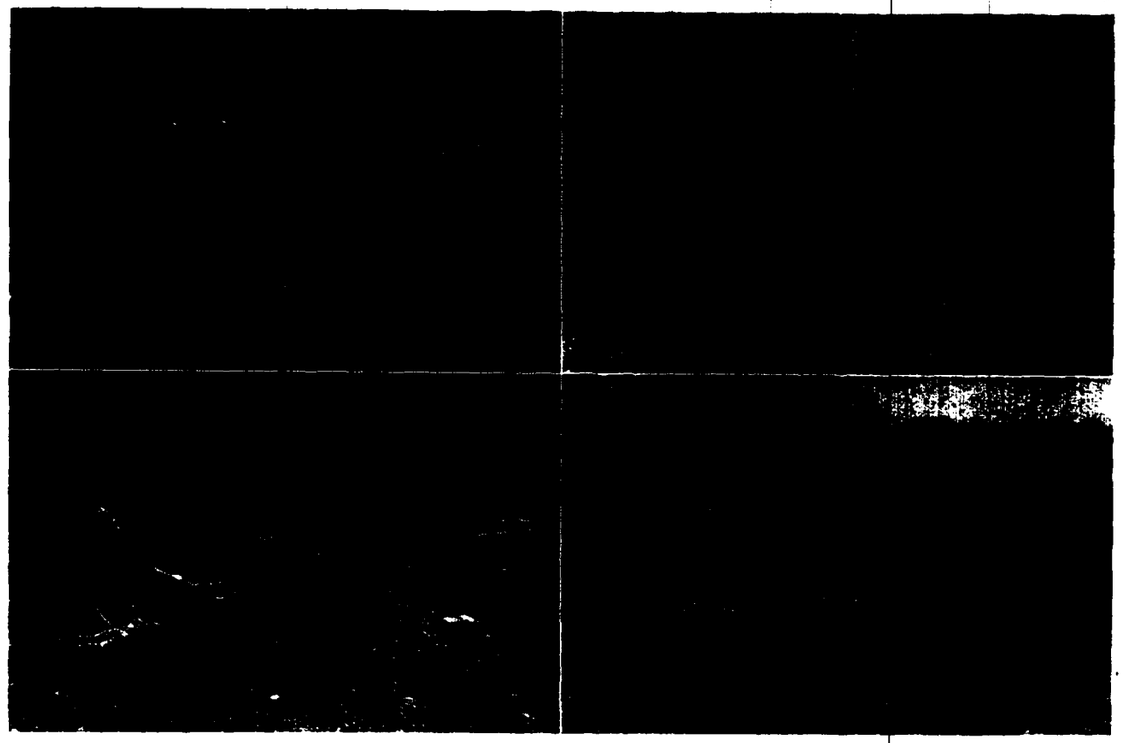
Norwich University in the green hills of Vermont is an essentially military college. Cadets wear a distinctive Norwich uniform and are subject to military discipline at all times. The ROTC has always been an outstanding element in the institution—so much so that it is closely entwined with the organization and daily life of cadets. The student body of about 500 cadets is organized into a Corps of Cadets with a Headquarters Troop (which includes the Band) and five line troops. The Corps is commanded by a Cadet Major with his commissioned and noncommissioned staff. Each troop is commanded by a Cadet Captain with a full quota of Cadet Lieutenants and noncommissioned officers. Troops are composed of members of all classes and are quartered by organization in barracks. Each troop commander is held responsible for the daily inspection, discipline, and administration of his troop and barracks. There are no tactical officers. The cadet troop commander performs the duty of a "Tac." This placing of responsibility on the cadets themselves is a potent factor in developing initiative, self confidence and leadership in these embryo second lieutenants.

The ROTC up to the present time has consisted of one unit, Cavalry. Recently the organization of a small Signal Corps Unit has been authorized, effective at the beginning of the coming school year. In the past the ROTC quota allotted to this institution has been sufficient to include all Juniors and Seniors who are considered suitable and who are physically qualified for the Advance Course. Next year, due to the increased size of the Corps, enrollment from the new Junior Class in the Advance Course will be more selective and competitive. However, all cadets are required to take the ROTC instruction even though they may not be duly enrolled as members of the ROTC.

*Until recently, P.M.S. & T., Norwich University.



Barracks and Headquarters Building as seen from the ski jump



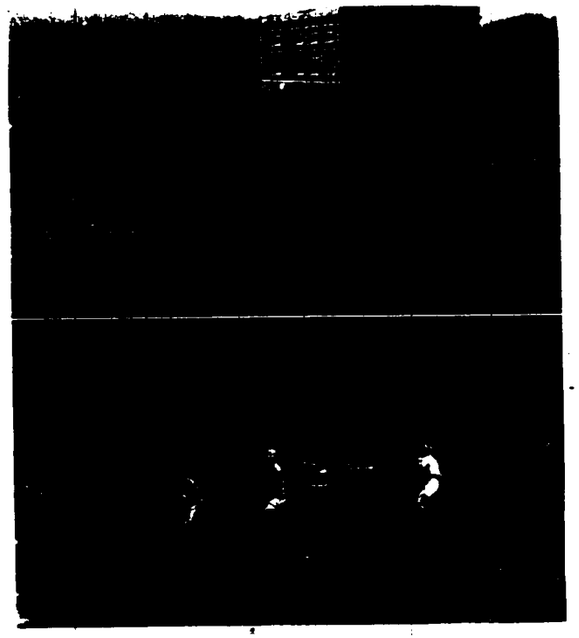
Combat problems

In the course of their daily routine cadets must necessarily absorb considerable military instruction in interior administration, guard, military courtesy and customs of the service, and discipline. The ROTC instruction proper averages about six to seven hours per week with as much as ten and one-half hours per week during certain seasons of the year. Due to climatic conditions the program of instruction is divided into three periods, fall, winter and spring. The fall and spring periods are devoted to practical outdoor work while theoretical and some practical instruction is carried on indoors during the winter period.

The fall and spring instruction is conducted by troop by the cadet officers and noncommissioned officers under the supervision of the regularly assigned instructors. The drill period consists of two hours per day four days per week with one hour and a half on Saturday. At the beginning of the year the Freshmen are given recruit instruction by their own cadet noncommissioned officers, and the various troops are given a shake-down period of close- and extended-order drill. From this they progress to dismounted squad, platoon and troop combat training on natural terrain in the hills adjacent to the school. These involve tactical exercises in which leadership and control of units by noncommissioned officers and officers is emphasized. The Unit has 88 government mounts assigned, which is all that present stabling facilities will accommodate. This permits one troop per day (by roster) to go to mounted drill. Also one troop at a time (by roster) receives practical instruction in weapons; Freshmen in preliminary rifle marksmanship, Sophomores in small-bore gallery practice, while Juniors fire the dismounted pistol course. The Seniors of such troop, buck privates as well as cadet officers, are assigned to the various groups as instructors under supervision of one or more of the commissioned instructors. It has been found that the Seniors rise to this responsibility and that the Senior "bucks" especially develop self-confidence and derive valuable training from the experience. During this period also all Seniors are given instruction in voice drill and the giving of drill commands.

In this climate cold and inclement weather stops the outdoor work from about November 1st to April 1st. This winter period is devoted to classroom instruction covering the various subjects required by the War Department Directive. This instruction is conducted by classes, that is, First- and Second-Year Basics and First- and Second-Year Advanced, in contrast to the outdoor work which is conducted principally by troop, each troop consisting of members of all classes.

Since Norwich is fortunate in having a well-constructed riding hall, equitation is carried on throughout the whole school year. Equitation classes are kept small and are staggered throughout the day. Schedules are arranged by utilizing academic periods that otherwise would be vacant, so that each cadet from Freshman to



Top: **Graduating class taking oath of office for commission.** ***Bottom:*** **Polo at Norwich**

Senior gets one equitation period per week for the entire year in addition to mounted drill with his troop in the spring and fall. This equitation is in addition to the regular periods of military instruction.

Besides the above-mentioned routine schedule of instruction there is opportunity for cadets to participate in extra-curricular military activities. With the facilities afforded by the riding hall, polo is carried on throughout the year. Practice and games are conducted five days a week. In the fall and spring a very satisfactory outdoor field is available and used to the fullest extent. During the winter months, indoor polo is carried on in the riding hall. At times a squad of about forty-five players are active in this sport.

A group of selected riders is formed into a Jumping Class for the training of both horse and rider. This class works two evenings a week in the hall. By this means selected horses as prospective jumpers are improved, the cadets receive instruction in jump riding and the development and training of jumpers, and interest in this and other phases of horsemanship is fostered and encouraged.

For cadets interested in rifle marksmanship, a rifle squad is maintained from which a rifle team is selected to represent the University in various team and individual matches. An excellent small-bore range is provided in the armory. The interest displayed and the benefit derived from this activity is demonstrated by the very creditable results obtained in competition with other collegiate and civilian rifle group teams.

Since our entry into the war the tempo of instruction has been stepped up. A course in physical training has been incorporated for the Juniors and Seniors with a view to improving their physical condition and hardening the Seniors for the field service which their active duty after graduation will entail. Additional time has been devoted to the Juniors in an intensive course in rifle marksmanship, including the firing of an additional small-bore gallery course.

A 28-hour course in motor maintenance and the duties of a unit motor officer has been initiated for the Seniors. This is given two hours per week in extra time that has been made available and is an addition to the original program of instruction. This action was taken to better the preparation of those cadets who will go to the Armored Force and those who sooner or later will have responsibilities involving motors with the Cavalry regiments. Instruction in this course is both theoretical and practical.

With active duty immediately after graduation assured, the thought and contemplation of things military in the minds of the Seniors far outweighed their interest in academic subjects. Recognizing and capitalizing on this, the academic faculty was induced to forego the formal final academic examinations for Seniors and made the week originally set aside for these available to the Military Department for a final period of intensive practical training. This period was devoted to training with an Armored Unit. Through the courtesy and coöperation of the Commanding General of the Armored Force and of Major General Henry H. Baird, Commanding the 4th Armored Division, arrangements were made for the entire Senior Class to visit Pine Camp, New York, and spend a week with the 4th Armored Division. During this time the cadets were assigned to units of the division as junior officers. They were given and accepted the duties and responsibilities of second lieutenants, assisting in the training and in some cases being required to take over one or more sections of the NCO schools in the evenings. This really put them on the spot and their reaction to the situation was very gratifying. The result of this trip was of inestimable value, bringing out and crystalizing the latent qualities of initiative and leadership which their four-year course as cadets had endeavored to form, as well as giving each cadet considerable first-hand knowledge of the organization and matériel of the Armored Force. The outstanding success of this period was due to the wholehearted coöperation of all members of the 4th Armored Division.

Two days after their return from this trip these cadets were graduated and received their commissions. In spite of the fact that this is solely a Cavalry Unit, a considerable number of cadets were commissioned in other branches of the service, viz: Armored Force, Engineer Corps, Signal Corps, Chemical Warfare Service and Air Corps (non-rated). Approximately ten days after graduation, the majority of these new second lieutenants were ordered to active duty.

Cavalry R.O.T.C. at V.M.I.

By Colonel George D. Wiltshire*

"THE object is to supply the place of the present Guard, by another, composed of young men from seventeen to twenty-four years of age, to perform the necessary duties of a guard, who would receive no pay, but in lieu, have afforded to them the opportunities of a liberal education." Thus wrote Colonel J. T. L. Preston, some hundred-odd years ago, when there was under consideration a plan for substituting for the guard at the arsenal near Lexington, Virginia, a guard composed of cadets. When this plan was at last put into operation the Virginia Military Institute was born. Since that time she has been contributing in war and in peace, soldiers of a high order ready to give their best in fighting for their country or in pursuing more peaceful civilian occupations. During the Civil War the V.M.I. Corps fought as a unit in the Battle of New Market in May, 1864, and was instrumental in deciding that engagement in favor of the Confederates. It is believed that this is the only time in history that a student body as such has participated in a battle. During World War I, of the 2,484 men who had graduated since the founding of V.M.I. in 1839, many of whom had long since died, 1,830 served with the armed forces of the United States. Of this number seventy-eight per cent held commissions. In this second World War, V.M.I. men are again using the training they have received to help tip the balance in favor of the United Nations.

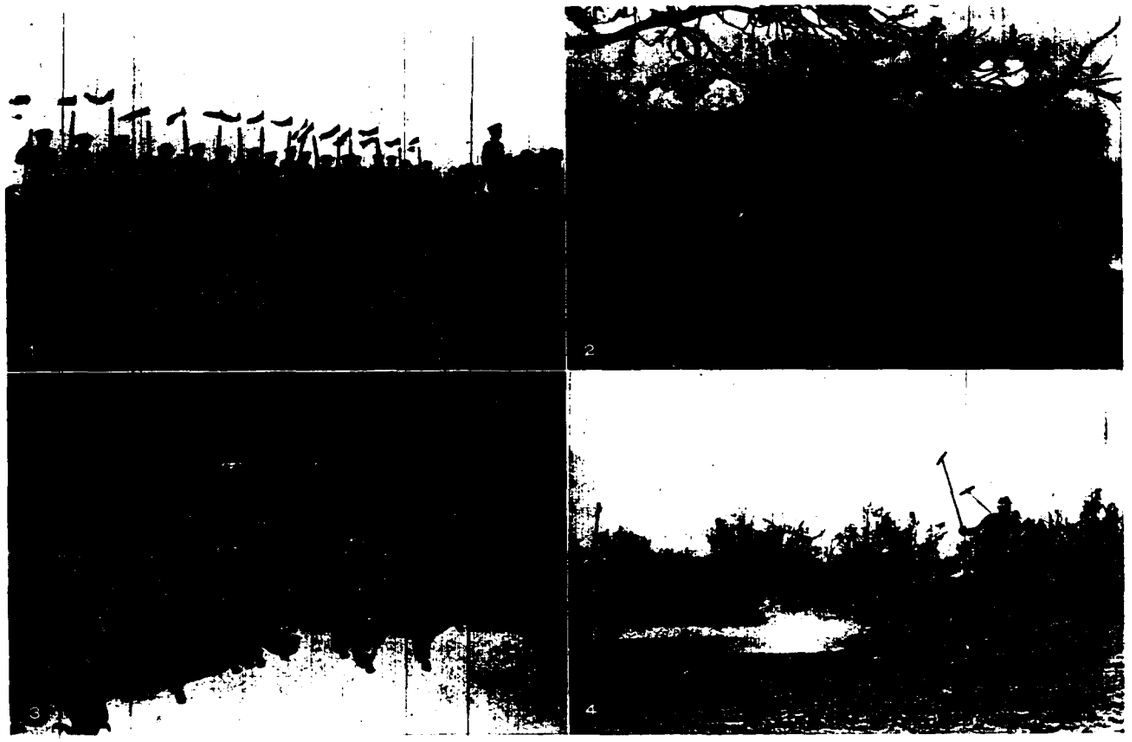
Of this year's graduating class, which was graduated a month ahead of schedule as a contribution to the war effort, 134 out of the 146 graduates went into the armed forces ten days after their graduation. Of the remaining twelve, seven were enrolled in medical schools and five were physically disqualified. The recent graduating classes are virtually one hundred per cent in the armed forces.

V.M.I., from its inception, has been a military institution. All cadets are required to take military training whether enrolled in the ROTC or not. V.M.I. was producing soldiers many years before the ROTC was conceived. Cadets live the life of a soldier—wearing the uniform at all times, living in barracks, governing themselves as a regiment of cadets, maintaining an interior guard twenty-four hours a day during the entire school session, and marching to and from classes and the mess hall. This life acquaints them with the military system long before they don the olive drab. All instructors in the academic department hold honorary commissions in the Virginia Militia, and are required to wear uniforms to all classes. Cadets observe all the military courtesies towards these members of the academic staff.

Three arms of the service are represented by the ROTC—Field Artillery, in which about one-half the Corps of Cadets is enrolled; Cavalry, with one-third of the cadets; and Infantry with one-sixth of the cadet Corps. The corps is, for the purposes of drill and administration, organized into a regiment of six companies. Cadet officers come from the First Class, NCO's come from the Second and Third Classes. Every cadet, whatever may be his unit, attends basic infantry drill

*Senior Cavalry Instructor, V.M.I.

New riding hall now under construction



1—A platoon trots past the reviewing stand. 2—Horses tied to the picket lines on the annual spring hike which replaces "spring vacation." 3—Water Call. A platoon watering horses on the spring hike. Each cadet must care for his own mount throughout the period of the hike. 4—Polo. Qualified riders may have a try at polo, coached by one of the R.O.T. C. instructors.

three times weekly, Regimental Parade three times a week, and Regimental Review and Inspection once a week.

Utilizing the 150-acre drill ground owned by the Institute and the neighboring farms and country roads it has always been the effort of officers assigned to ROTC duty at V.M.I. to make their instruction practical and useful. The beautiful and rugged mountain country offers excellent terrain over which the cavalry can prove its worth. There is adequate ground for interesting combat exercises and rigorous cross-country rides.

Now that the United States is at war, as might be expected the cadets show a noticeably increased desire for military instruction. The Military Science Department, consisting of eight officers; three cavalrymen, four artillerymen, and one infantryman; plus well-qualified enlisted instructors, is doing all in its power to satiate this desire for information. By taking advantage of information circulated by the service schools and appearing in service journals, and by sending junior officers to the service schools the officers assigned to duty at V.M.I. are endeavoring to keep abreast of current developments and to pass them on to the cadets so that they may perform creditably the job that lies ahead of them. The War Department course of instruction calls for 512 hours of instruction. V.M.I. gives 1,038 hours which, of course, does not include the time spent in performing guard duty. Cadets receive instruction in riot control, pistol and rifle firing, mechanization and motors and other subjects which are not prescribed by the War Department. In order that cadets may become thoroughly familiar with training methods they are required to prepare and present lectures or instruction to their own or under classes. Since V.M.I. is fundamentally a military institution there is never any question of coöperation between the military and academic departments. As an example Personal Hygiene and Military Sanitation and First Aid are taught by specially-qualified instructors of the Physical Education Department.

An innovation introduced this year by Colonel W. A. Ellis, Infantry, the P.M.S.&T., was an "Officers' School" for all members of the First Class. The purpose of this school was to equip prospective graduates with the tools necessary to be second lieutenants. Colonel Ellis was assisted in this instruction by the officers on duty with the ROTC. In this school, which was substituted in lieu of drill for members of the First Class only, the men were given practical experience in giving commands, told something of their relationships

with enlisted men, instructed how to report at their first station, taught training methods, told what to buy in the way of uniforms, and many of the other minor but perplexing problems that face a new "Shavetail."

To the Superintendent of V.M.I., General Charles E. Kilbourne, U.S.A. Retired, is owed a debt of gratitude for his interest in and his encouragement of all horse activities. Though brought up in the Coast Artillery, General Kilbourne, is aware that horses are not outmoded and that horsemanship is useful for developing in officers the kind of courage and determination needed to lead men.

New fireproof stables were built at V.M.I. in 1938. They house 180 horses, ninety being assigned to the cavalry and ninety to the field artillery. A detachment of conscientious, hard-working enlisted men keeps the horses, their equipment and the stables in top shape. A spacious riding hall, 125 feet by 280 feet, now in the process of construction, will add much to the plant for military instruction.

In addition to routine instruction many extra-curricular activities contribute towards building the men with strong bodies and determined minds which we are going to need sorely in the uncertain days ahead of us. The intramural athletic program in which there is 100 per cent participation by cadets develops a keen and healthful competitive spirit among the cadets and between the companies. Recreational riding is available to all cadets, even the infantrymen, who are given an opportunity to learn to ride and qualify for riding privileges. The cadets maintain a pack of hounds and each Sunday afternoon through the fall and winter the hunt club, boasting a membership of almost all cadets who hold riding privileges, holds a drag hunt. Especially qualified riders may become members of the Horse Show and Polo Teams. In more peaceful days these teams have distinguished themselves by defeating high-class competition in the show ring or on the polo field. All these riding activities are under the direction and sponsorship of one or more of the cavalry or field artillery officers on duty at the Institute. There are also intramural and intercollegiate rifle and pistol teams coached by Army personnel which give many cadets the opportunity of becoming proficient marksmen.

The summer weeks of 1942 are being spent by officers on ROTC duty in renovating their courses in an effort to present instruction of a very sound and practical nature. Cadets next year will spend more time estimating ranges, leading small units, making use of cover, and crawling on their bellies. There will be less talking on the part of instructors and more *doing* on the part of students. Wars are not fought on maps or on blackboards. While students are learning their lessons on the ground their bodies will be growing tough and hard as they must be, and when they leave here it is hoped that they will be able to step into the job assigned and do their duty.

AT YOUR SERVICE

American Red Cross

IT takes more than a uniform, a gun, and daily drills to make a good soldier. Soldiering is a job that calls for courage and morale. And neither is possible if the man in uniform is burdened with worries over the welfare of those he has left behind.

For this reason there is need for a source to which the soldier can turn to unburden himself; for a source that can assist his family in meeting the social and economic problems which arise, and keep the home ties intact during his absence.

In 1905 a far-seeing Congress placed those duties in the hands of the American Red Cross.

Today, as in the first World War, the American Red Cross is meeting those responsibilities.

Since 1940, when Selective Service became effective, the growth of the Red Cross and the expansion of its services to the men in the armed forces and their families at home has kept pace with the growth of the Army and Navy.

Veteran service men, who remember the work of the Red Cross during the last war and its efforts on behalf of the veterans of that war, will not be surprised to learn that more than one-half of the current budget of the Red Cross has been set aside for services to the armed forces. Nor will they be surprised to learn that large quantities of supplies and equipment, gathered for the physical and mental well-being of the men of the Army and Navy, have been sent to camps, ports, and overseas stations wherever American soldiers are stationed, and that hundreds of trained workers and volunteers have been enlisted and assigned to the task of performing the duties placed upon the Red Cross when it was chartered by Congress.

All this has been made possible by the contributions of millions of patriotic Americans to the Red Cross War Fund.

Briefly, the present efforts of the Red Cross are directed at bolstering the morale of our fighting men by relieving their minds of worries that so often arise while they are in training and on combat duty. Veteran officers already know, and newcomers soon learn what assistance the Red Cross Field Directors can give them in dealing with the personal problems of their command. Red Cross assistance to American soldiers is outlined in Army Regulations, 850-75.

In the first three months of 1942, according to Chairman Norman H. Davis, the American Red Cross aided 197,127 service men in the solution of personal and family problems.

The extent to which the Red Cross can aid a serviceman depends largely upon the individual. Though its impressive history shows that it has sometimes performed tasks that verged on the miraculous, the Red Cross is not gifted with any special type of clairvoyance. Before it can perform its services for a soldier, it must know that he wants and needs those services. Only the individual soldier, or his commanding officer, can provide that information.

Further, it is important that servicemen bear in mind that they are not objects of charity when they ask the Red Cross to help solve their problems, apply for a cash loan or grant to get to the bedside of a mother or father who is seriously ill, or want help to tide their family over a financial rough spot. The day the soldier dons the uniform of the United States Army, it becomes the duty of the Red Cross to assist him wherever and whenever it can.

To meet this obligation, the Red Cross today has more than 1,400 staff workers stationed at Army and Navy posts. They include field directors, case workers, medical social workers, recreation leaders, and the necessary clerical help. Red Cross headquarters buildings have been constructed at all major camps and more are planned.

Together with the more than 3,700 Red Cross chapters and their more than 6,000 branches, these field workers are the tie with the man in uniform and the folks back home. No problem is too great or too small for their attention.

If the soldier needs advice on family and business matters, the Red Cross is there to help him. If some member of his family back home needs employment, the Red Cross will try to help him or her find it, and if the folks back home are in need of temporary relief—financially embarrassed through no fault of their own, again, the Red Cross is there to offer a helping hand.

Dental and medical care for children of the men who wear Uncle Sam's uniform, providing special diets for their health, clothing them, purchasing glasses—all this is within the sphere of the American Red Cross which coöperates with local public and private agencies, thereby eliminating a duplication of services.

Men who have been in the service for any length of time are probably already familiar with the numerous other Red Cross services at their posts. In meeting the requirements of men who are hospitalized is the work of the Red Cross particularly outstanding. Through Camp and Hospital Service Councils, radio sets, recreation equipment, and a wide variety of reading material—including magazines and home-town newspapers

Left: Six Army Nurses recently returned from service on Bataan receive citations. *Right:* Coffee and doughnuts are popular at Red Cross canteens

—are provided. Red Cross recreation workers help lift the spirits of the convalescents by arranging for moving picture shows, drives out into the country in automobiles provided by the Motor Corps of nearby chapters, and other entertainment. The gracious "Gray Ladies" visit soldier-patients, write letters for them, read to them, and join in quiet games which help take the patient's mind off his ailment and ill-fortune.

Blood donated by thousands of Americans and collected by the Red Cross has saved the lives of many soldiers who were wounded in combat. At the request of the Surgeon General, the Red Cross is collecting 1,280,000 pints of blood which will be processed into dried plasma for emergency transfusions for American fighting men. A total of more than 460,000 pints have already been donated by patriotic men and women.

Many American soldiers now overseas already have in their possession a little kit bag that contains much to make the serviceman's life a little easier. Prepared by production workers in home-town chapters throughout the country, these little khaki kits contain needles and thread for mending, water-proof match boxes, cigarettes, soap and soap containers, a shoe polishing cloth, a popular detective novel, and other small items to make their days aboard ship more comfortable.

Overseas, Red Cross field directors and recreation leaders experience the same dangers as the fighting man. The histories of Corregidor and Bataan will record the quietly heroic deeds of Red Cross workers, who worked steadily during the battering meted out by the enemy, and asked no quarters when those American possessions were surrendered temporarily by General Wainwright.

Upon their arrival on foreign soil, the first thought of Red Cross task force staff personnel is for the comfort of the troops. Field headquarters are established immediately, and as requests arise, service clubs, such as those which have become so popular with American soldiers now in England, Iceland, Northern Ireland, Australia, and New Caledonia, are established. The friendliness of the Red Cross staff helps make the clubs an oasis of American life for the boys from Gotham to Podunk. It is to these clubs that they go to dance, to meet friends, to read, and eat their fill of such typically American delicacies as hot dogs and hamburgers.

Perhaps the popularity of the Red Cross service clubs is best described in a letter recently received from a field supervisor soon after his arrival in Northern Ireland. Telling of the ceremonies which attended the opening of the club, he wrote:

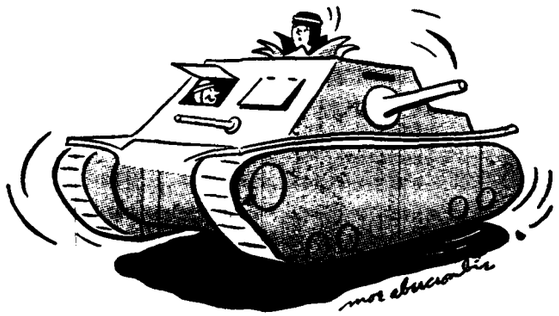
"We had practically every person of note in Ulster present and served more than 400 at afternoon tea. But what was more important, about 700 boys from our armed forces came in to dance and 'look around' during the evening. We had a dance to which we invited about 75 'Wrens' (Women's Royal Navy) that was a grand success. About 300 boys gave them the time of their lives. But we also had some Coca-Cola, 1,800 bottles of it, that we expected would last us a week. Twelve hundred bottles went during the evening and the remainder by the next day!"

The charge for food at such clubs is nominal. At the one described above, an evening dinner of soup, steak and vegetables, raspberry custard tart, coffee, rolls and butter, costs service men only 20 cents in American money. A night's lodging on a real bed, bath, and breakfast at the same club costs only 52 cents. No profit is derived from these charges.

As to how Red Cross workers overseas feel toward the men in uniform, their attitude is summed up in this paragraph from the same field supervisor who described the opening of a Northern Ireland service club.

"If I have any message to send to the people back home, it is this," he wrote. "We, here in the American Red Cross Service Club, are seeing to it that their sons will have the best in food, shelter and recreation that can be given to them under existing conditions. The men appreciate this and speak of the Red Cross in words that sometimes embarrass us with their praise. They're a fine lot of boys, and we're proud of them."

Horse Feathers



"Bumpy, isn't it?"

—*Halt.*

Oh Yeah?

"You say you didn't get in until three this morning, and are too sleepy to get up until Reveille? Well, that's all right, you can sleep until noon and I'll have the sergeant call you when lunch is ready!"

"You say you don't care for the food we're serving you here in camp? Why didn't you speak up sooner, I'm sure the mess sergeant will be only too glad to serve you anything you'd care to ask for!"

"You say you're allergic to noise? Well then, never mind target practice—why don't you drop over to the library and pick a nice quiet spot to catch up on your reading?

"You say your uniform doesn't fit you properly? Why I'd be only too glad to call in a tailor right away. Do you like the shoulders with a little more padding? Perhaps you'd like a little more drape to the trousers—or maybe the pants should strike you higher and have pleats at the top—or maybe you'd like. . . ."

"You say you have a date tonight and you told your girl you were an officer? Why I'm sure the captain would be only too glad to lend you his uniform. And by the way if you're a little short of cash I'm sure that he would be glad to let you have some to tide you over."

—*Halt.*

MOTOR SERGEANT (to driver): "Your truck O.K. to roll this morning?"

DRIVER: "Yes, sir, 'cept the horn is indifferent."

SERGEANT: "What do you mean—indifferent?"

DRIVER: "It just don't give a toot."

We'll be seeing you—Nippo!

On Board Ship, June 16.

Hon. Mr. N. Y. *Times* Ed., U.S.A.

Verry sad are the feelings as hon. steamship transports sheltered Japanese diplomattic squad homeward from Hot Springs to native land.

Nice safe native land maybe was Nipponese Kingdom under Founding Father Jimmu-tenno many centuries back, but how will it going to be under Jimmu-doolittle in next cupple years, I ask you?

Excuse kindly if sending you farewell poem on this delikit subjict, as follow:

Native land I long to be
Long way from at pressent.
Carry me back to Old Virginia,
If please.

K. NIPPO.

—*N. Y. Times.*

COOK: "What's the matter now, soldier, the meat tough?"

ROOK: "Naw, the meat's swell, but I can't cut the gravy!"

Ready On the Firing Line

"How do you know you hit that duck?"

"I shot him in the foot and in the head at the same time."

"How could you possibly hit him in the foot and head at the same time?"

"He was scratching his head."

—*Exchange.*

"This is the fourth morning you've been late," said the colonel to his orderly.

"Ye, sir," he replied. "I guess I overslept."

"Where's that alarm clock I gave you?"

"In my tent, sir."

"Don't you ever wind it?"

"Yes, sir, every day, sir."

"And do you set the alarm?"

"Yes, sir, I set the alarm, sir."

"Then what seems to be the matter?"

"Well, you see, sir, the thing always goes off when I'm asleep."

Weather forecast (for drunken driver): Fine today, cooler tomorrow.

Book Reviews

GET TOUGH! How To WIN IN HAND-TO-HAND FIGHTING. By Captain W. E. Fairbairn. D. Appleton-Century Company, New York. 1942. 121 pp. Well illustrated. $1.00.

"You don't need brute strength; with your bare hands you can beat the man who wants to kill you." Thus writes Captain Fairbairn, the man who has taught the British Commandos and the U. S. Marines his scientific methods of close combat.

Captain Fairbairn was the first foreigner ever admitted to Kodokan Jiu-Jutsu University in Tokyo where he was awarded the Black Belt, Second Degree. He has made a scientific study of close hand-to-hand combat and in this book gives clear, simple instructions that "applied vigorously and without restraint, will result, if not in the death, then certainly in the maiming of your opponent."

One hundred and forty clear-cut line drawings illustrate the simple instructions regarding Blows, Releases, Holds, Throws, Use of the Knife, the Smatchet, Disarming an Opponent of His Pistol, and much miscellaneous advice covering subjects that range from the art of getting up from the ground to various methods of securing a prisoner.

At the outbreak of the war, Captain Fairbairn was a member of the Shanghai Police, stationed in one of the toughest spots in the world. In 1939 he was recalled to England to train Commandos, and at this time is in the United States on loan to this government as instructor of our Armed Forces.

No book could be of more practical value to the individual soldier. Read it! Learn it! Practice it! The time may come when this book will be the means of saving your life.

THE ARMY WOMAN'S HANDBOOK. By Clella Reeves Collins. Whittlesey House, New York. 203 pp. $1.25.

This book, written primarily as a financial and legal guide for the woman with a husband, son, or sweetheart in the Service, contains much vital information on such subjects as:

1. Steps which must be taken to assure wives and families of Government protection during wartime separations.
2. Legal and financial papers to be prepared.
3. Protective laws that all wives of soldiers should know.
4. Information on allotments, wills, power of attorney, insurance, pensions, moving, and other important topics.

Mrs. Collins is the wife of Colonel Carter Collins and has had much experience in the affairs about which she writes.

ATTACK

By MAJOR F. O. MIKSCHE, Czechoslovakian Army

. . . . The development of modern *blitz* tactics analyzed by an officer who watched its growth in Spain . . . .

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By NANCY SHEA

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ATTACK. By Major F. O. Miksche, Czechoslovakian Army. Random House, New York. 267 pp. Well illustrated. $2.50.

This book is a brilliant analysis of the tactical science of modern warfare, based on close observation and careful study of operations in recent European theaters of war.

The author, after resigning his commission in the Czechoslovakian Army in 1936, fought in Spain as an artillery and staff officer at the Headquarters of the Spanish Republican Army, and watched closely that laboratory of modern tactics as the Germans developed and improved their principles of *blitzkrieg*. He is now serving with a detachment of Czechoslovakian volunteers somewhere in England.

Major Miksche uncompromisingly champions the doctrine of *attack* and stresses the importance of the "combat team," which he says is "the necessary organizational complement of the tactical idea that governs German practice." Beginning with "The Spanish Laboratory," he analyses the campaigns of the present war up to the invasion of Russia, and with a wealth of detail, illustrated by excellent charts, describes the tactical employment of combat units.

This thesis on modern tactics should be read by every officer who expects to be near a fighting front.

✓ ✓ ✓

THE STORY OF THE LITTLE BIG HORN (CUSTER'S LAST FIGHT). By Colonel W. A. Graham, Judge Advocate, U. S. Army, Retired. Military Service Publishing Company, Harrisburg, Pa. 178 pp. Well illustrated and appendixed. $2.00.

All the world loves a mystery, and what really happened during the tragic and disastrous Battle of the Little Big Horn still remains one of the greatest and most fascinating mysteries for students of American history.

As the result of long and thorough research Colonel Graham's limited first edition immediately impressed everyone as a logical analysis, and the author became generally accepted as the foremost authority on the subject. The demand for the book mounted to the extent that Colonel Graham finally consented to making available a second edition with added appendix and a foreword by Brigadier General Hamilton S. Hawkins.

Every cavalryman should be familiar with the contents of this historical document.

✓ ✓ ✓

PERSONAL FINANCE AND MANAGEMENT FOR THE ARMY OFFICER. By Lt. Colonel Charles B. Hutchison. D. Appleton-Century Company, New York. 179 pp. $2.50.

This book fills a crying need for information of a personal nature, particularly for officers newly activated in the service and officers leaving for foreign duty.

In clear helpful detail the author discusses various service obligations from the purchase of uniforms and equipment, army pay and allowances, to owning a car, taxes, and finally the rights of personnel and dependents in the event of death or disability.

A HORSEMAN'S HANDBOOK ON PRACTICAL BREEDING (Second edition, 1942). By John F. Wall. American Remount Association, Washington, 327 pp. $4.00.

To the horse breeder, this revised and enlarged edition of Colonel Wall's 1938 *Handbook* will be a welcome publication. Endorsed as a textbook by the Chief of the U. S. Agricultural Education Service, it is heartily recommended to all breeders as an indispensable book of ready reference.

Following are the Chapter Headings and Appendices, which tell their own story:

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WEST POINT: MOULDER OF MEN. By Major William H. Baumer, Jr. D. Appleton-Century Company, New York. $3.00.

The purpose of this book is to show the place of West Point in American life today. Discussing the present-day training at the Academy, Major Baumer pictures the types of men who enter, shows how they obtain their appointments, and tells what abilities they generally bring with them. The training of the first months is outlined, and the author then shows the scope of the military, academic, athletic, and character training, showing to what degree these objectives are attained by the graduate. The last part of the book deals with West Point's home-grown faculty, West Point as a national investment, how well West Point fulfills its mission, and finally the future of the Academy. Throughout there are interesting sidelights on the history and traditions of West Point.

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PRIVATE PURKEY IN LOVE AND WAR. By H. I. PHILLIPS. Harper and Brothers, New York. 150 pp. $1.50.

This book, by the author of *The Private Papers of Private Purkey*, is a "wow." Based on incidents that occur during the early stages of employment of erstwhile civilians in Uncle Sam's armed forces, it is by far the tops in humorous war literature. It contains everything from a smile to a belly-laugh and should be in every troop library.

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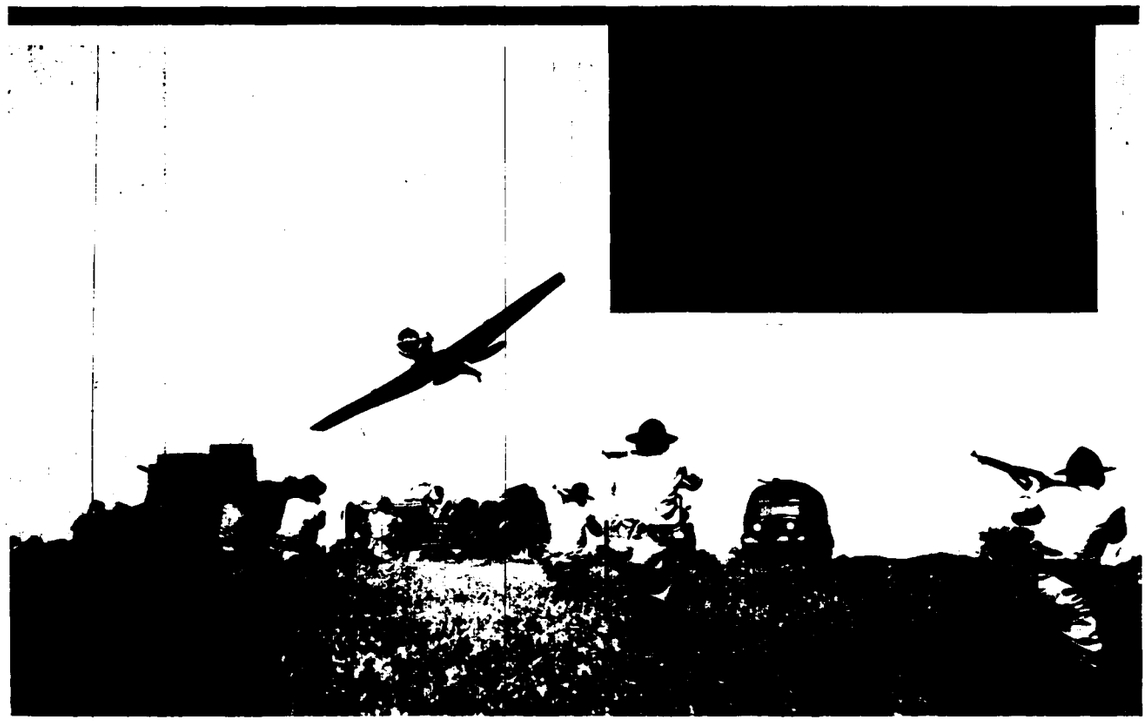

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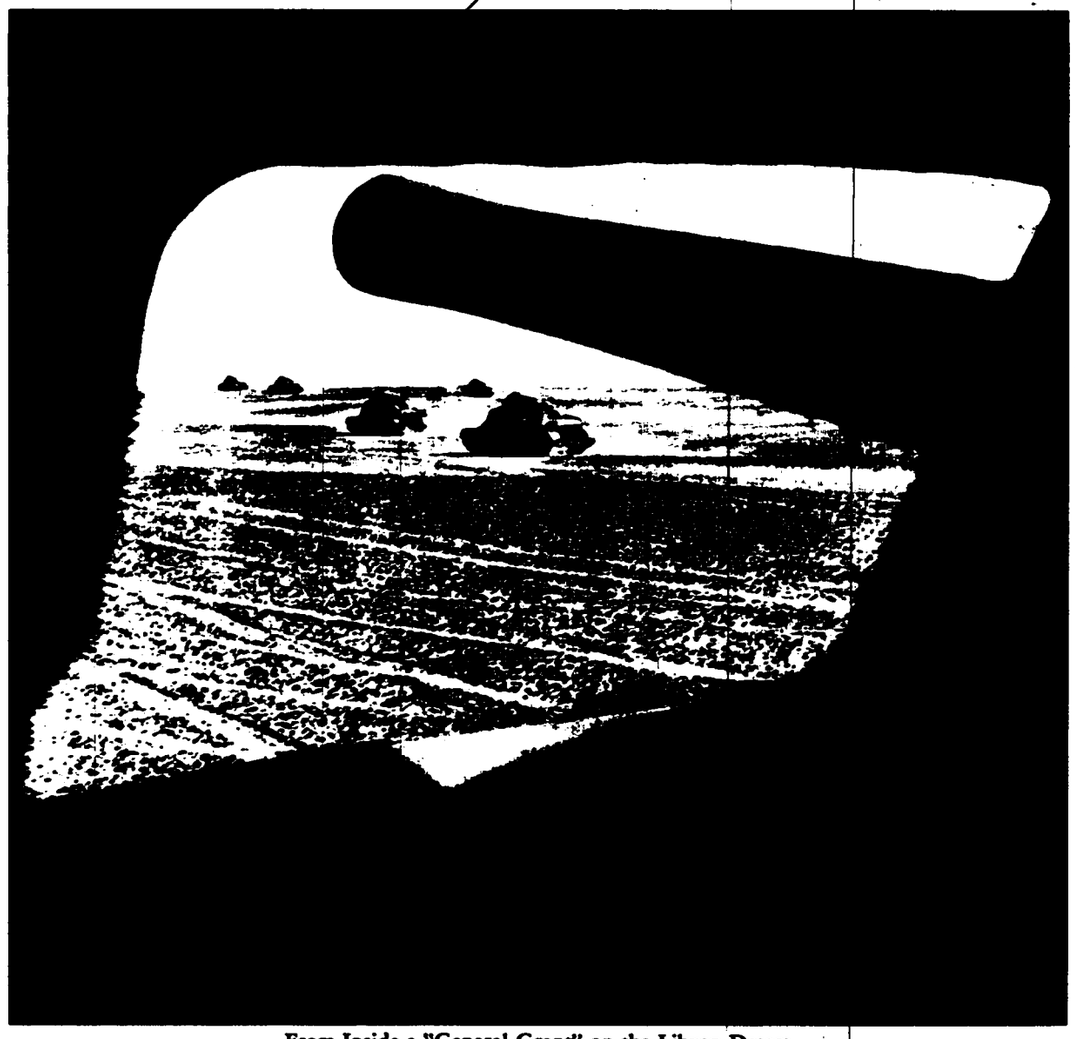

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The Desert Training Corps

By Major General George E. Patton, Jr.

TO all who for years have been bedeviled by arbitrary restrictions on maneuvers, the situation at the Desert Training Center is truly as inspiring as it is unusual. In the whole 12,000,000 odd acres the only restrictions as to movement are those imposed by nature. Even so, these are more accurately deterrents rather than restrictions, for, with time and perspiration, you can go anywhere.

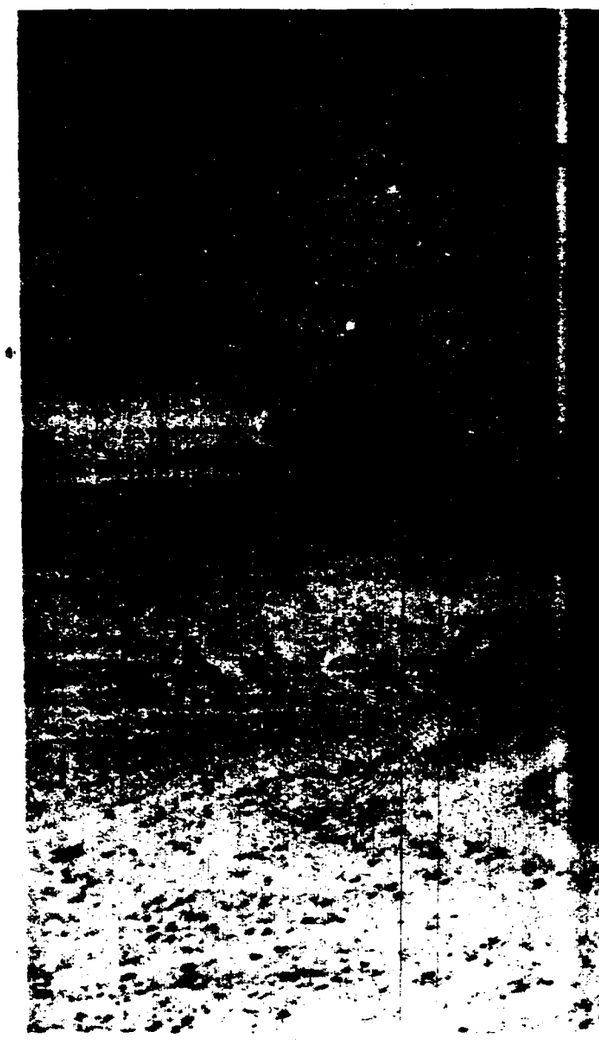
Another point about desert training that is alluring, particularly to artillerymen, is the fact that one can open fire with live ammunition or drop bombs at any time and in any direction without endangering anyone. The mountains form the backstops and the parapets. As illustrative of this, seven target ranges, two moving target ranges, two mechanized combat ranges and a normal infantry combat range have been constructed at a total cost to the Government of less than $1,000.

Those people who visualize the desert as a flat expanse of glistening sand, are in for a rude awakening, for while there are ample pieces of perfectly flat desert, there are other places with rocks, mountains and trees. In fact, while in some places one is as visible as a fly on a kitchen table, in other places there is sufficient vegetation to conceal an armored corps. There is, however, one striking difference between the cover provided in Louisiana or the Carolinas and the cover provided by the desert—the desert does not include mosquitoes.

Another point of interest is the fact that even in open places where the sparse vegetation does not exceed two and a half feet in height a whole combat team of armored vehicles and trucks can be so arranged as to be practically invisible from the air at possible altitudes. By this is meant that at 2,000 feet or over, as many as three or four hundred vehicles cannot be picked up from the air if they are not moving. On the other hand, it has been found possible to pick up as small a unit as six trucks at thirty miles from 6,000 feet, when the trucks were moving.

The tactical mission of the force at the Desert Training Center has been to devise formations for marching and fighting which, while affording control and concentrated fire power, at the same time do not present lucrative air targets. It is felt that these ends have been accomplished. Formations now in use can move across country, followed by the combat train, and without halting can deploy into the attack formation and execute an attack, and at no time present any target worthy of bombardment.

There has been developed, also, a method of going into bivouac which is believed to insure protection from night attacks and from air bombardment, yet, at the same time permit a rapid formation for combat or for march. From a tactical standpoint, in addition to attempting to avoid damage from the air, the corps has specialized in combat suitable for attack on other armored units. In doing so, it has not been found necessary to deviate in any degree from the manual provided by the War Department and the Armored Force. Special cases of the general situations envisioned by those manuals have simply existed. If the platoon commanders know their duty and carry it out, and if the higher commanders maintain discipline and supply and have a rugged determination to close with the enemy and kill him, the answer to successful combat against armored units has been found.



American Tanks on the African Desert

The rugged, highly maneuverable quarter-ton truck, or "peep," has proved its usefulness as a reconnaissance vehicle in desert operations. Here the crew is partially screened from observation by an ocotillo bush, one of the commonest desert shrubs.
Photo by U. S. Army Signal Corps.

In all operations in the desert, the water is reduced to one gallon per man per day for all purposes. In addition, the vehicles have one to three gallons of water to place in the radiators. However, there have been strangely few occasions necessitating the addition of water to the radiators of the vehicles.

The one gallon per man has so far been more than adequate, even when we have operated for three days in succession at temperatures reaching 130° in the sun. The temperature in the shade is not mentioned because here there is no shade.

In desert operations it has been insisted that all cooking be individual or by vehicle. For this purpose "C" ration, or sometimes "B" ration, is used. Experience has shown that the answer to producing fire quickly and effectively in the desert is to fill an empty tin can with desert sand, gravel or soil, up to within about an inch of the top. Soak the contents with gasoline and light it. This gives ample heat and is a fire easily controlled and easily put out.

It has been found that the liner for the new infantry helmet makes an ideal tropical headpiece. It is worn by all members of the command. An investigation of some 400 selected individuals has demonstrated the fact that while the wearing of colored glasses is comfort-inducing it is not necessary. Competent medical officers have observed that those who have not worn them have shown no detrimental effects.

If constant first echelon and preventive maintenance is carried on, the vehicles do not deteriorate unduly. This is surprising when it is recognized that the vehicles have been used at least three times as much as in any other station known to the writer. It is felt that this lack of mechanical deterioration is due somewhat to the fact that owing to the nature of the ground excessive speeds are impossible.

The general health of the command is remarkably good. The tendency to obesity is distinctly lacking. For instance Sergeant "Man Mountain" Dean has, it is said, lost sixty pounds—but is still quite a figure of a man!

People are apt to think of the desert as a hot, horrid place. Actually, it is quite hot but, because of the low humidity, the heat is much less oppressive than the heat at similar times of the year in Georgia or Louisiana.

As for training, the situation is ideal. It should be remembered that from October to the end of May the weather in the desert is what babies cry for and old, rich people pay large sums of money to obtain.

One of the medium tanks which form the backbone of the armored forces now studying desert warfare tactics at the Desert Training Center. *Photo by U. S. Army Signal Corps.*

DEATH IN THE DESERT

From Careless Maintenance

*By Major General Levin H. Campbell, Jr.**

FIGHTING is no picnic, as Sherman once remarked. Particularly is it no picnic in that portion of the African desert and Egypt which has been called the strategical arch of the British Empire. Here the British are using eight divisions of troops to keep Rommel from breaking their grip on this arch. At this writing that grip has been materially loosened by Rommel's drive, with 50,000 men, across the Libyan desert into Egypt and almost to the gates of Alexandria and the Mediterranean terminal of that vital traffic artery, the Suez Canal. This Battle of Egypt has been going on for more than a year, and regardless of its outcome will no doubt go down in history as one of the world's decisive battles.

A long drawn out engagement of this sort, composed of endless sorties, skirmishes and battles, brings out as nothing else could, the dire need for servicing fighting equipment and maintaining it in running order. A sortie, a skirmish, a battle can be lost because of failure to service the fighting matériel you are using. It takes only a few such failures to lose an entire campaign. Most men and officers appreciate this fully but even so, gaps in preventive maintenance will occur from which losses are bound to follow.

As an example, we might cite a tank crew fighting with the forces in North Africa. The members of this crew so loved their tank that they almost made a religious ceremony of its care. In that hot desert the winds try to blow back in two months all the sand from the southern Sahara Desert which is blown down there in ten months by the normal prevailing winds from the Mediterranean. This magnifies greatly the importance of air cleaners. The tank crew was alert to this need and

*Chief of Ordnance, U. S. Army.

An American tank in the Sahara. Sand from the hot desert complicates maintenance.

Tank maintenance must go forward on schedule, even in the desert. The tank transport is hauling a 26-ton British tank.

carefully serviced the air cleaners for every eight hours of operation.

This crew made its 100-hour check on the engine shortly before tactical operations began, *but* when they pulled the engine they failed to cover the air intake pipe and the open air lines. In a few hours, more sand had blown into these openings than would have in the normal lifetime of the tank had the air been drawn through the air cleaners and all oil joints had been tight. Result—the engine had bearing failure in the height of a battle and it and its crew failed to return to Leaguer that night.

Take another look at the record. Only a small portion of a tank's life is spent under actual battle conditions, yet it is under battle conditions that the pay-off of all previous care comes. Thus, in the height of battle in the African Desert, an engine had failed because sometime earlier the driver did not turn it over to check against hydraulic lock. A turret has jammed because sand was allowed to accumulate in turret support rollers.

Another example was that of a jolly, happy little organization that had named their tanks after Walt Disney's seven dwarfs. They were Dopey, Sleepy, Sneezy, Grumpy, etc. Dopey and Sneezy went off on desert patrol southwest of Bir Haichem across the hot 120° sands and through the dust. Dopey and Sneezy were doing their job, after they arrived on location, by observing and reporting on movements and activities of the enemy. *But* in the too frequent use of their radio, the strength of the batteries became depleted. Because this patrol had seriously affected enemy movements a strong raiding party was sent out to neutralize them. Dopey and Sneezy stayed on the job knocking out one after the other of the attacking vehicles until such time that they, themselves, had to move. But because their batteries had run down the engines failed to start. Dopey and Sneezy are now charred and blackened ruins on the desert.

On the other hand, the British Fourth Armored Brigade, equipped with American tanks in the November-December North African battle had been taught to love and care for their vehicles. They drove these vehicles approximately 400 miles in the shadows of the Pyramids of Giza and the Sphinx. They moved by rail from Mena to Mersa Matruh; moved under their own power to a training area south of Sidi Barrani where they went into desert training; moved 70 miles to the area south of Solum in the vicinity of Bir Schefersen; went on the approach march seventy-four miles before contact with the enemy; and when the first battle began the original 166 tanks issued to this unit were on the firing line. They had responded to loving care and treatment of those who were to fight and gamble their lives on them.

This organization went through thirty-two days of continuous combat with men so tired that they would go to sleep at controls when the vehicles stopped. The commanding officer, realizing the need for food and warmth organized a crew to force-feed his men and to

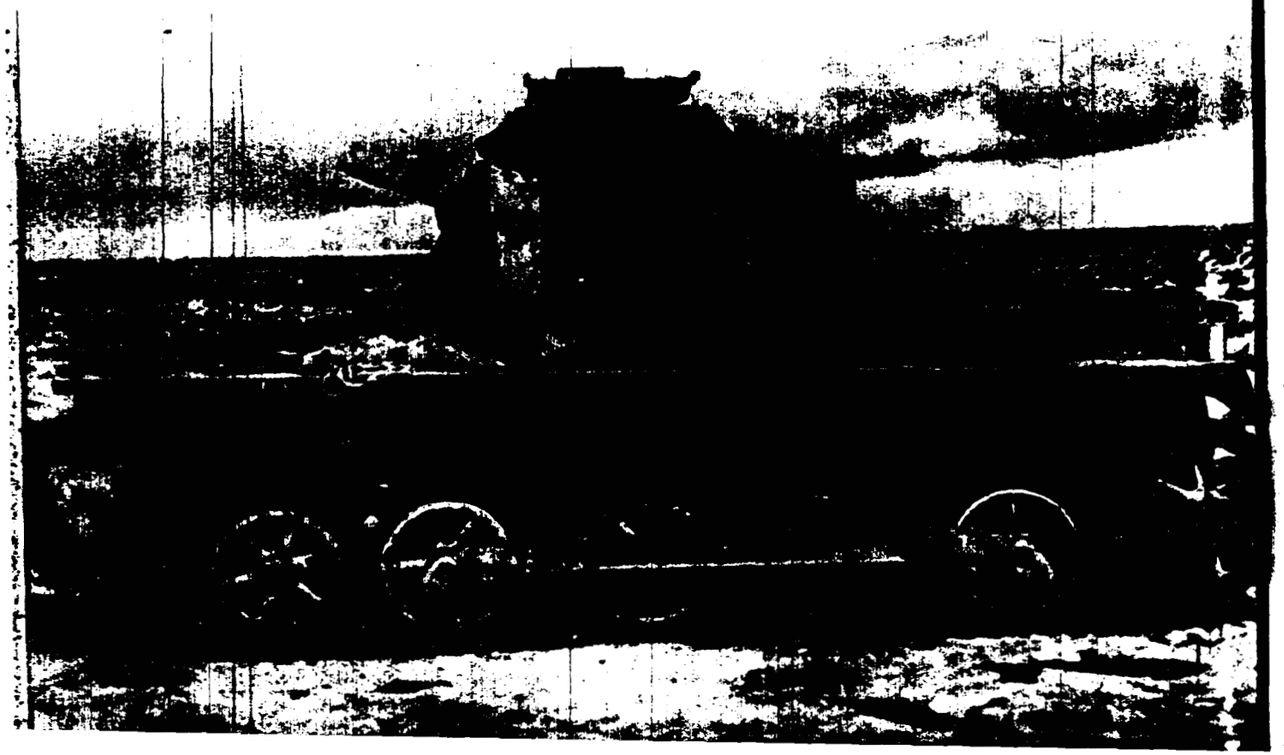
cover them with blankets so as to protect them from the heavy dew at night. In all that time this unit had only twelve minor mechanical failures and these were quickly corrected. The tanks returned to the unit for combat duty. These tanks saved the day. They responded to care. Because the tank responded to care, the soldiers gained more confidence in their vehicles and, as a result, were more daring and aggressive fighters. The soldier knew that with the kind of care he gave his vehicle, that vehicle would take him into battle and out of battle if it were at all possible.

Planes, tanks, motorized artillery and infantry on wheels now carry combined destruction to the enemy—swiftly and at a rate of speed unheard of a few years ago. The different arms and services have been welded into a compact fighting team—the armored division. Each man, each vehicle, each weapon is a well trained cog in an intricate machine. If one fails there is the possibility that the whole task will fail.

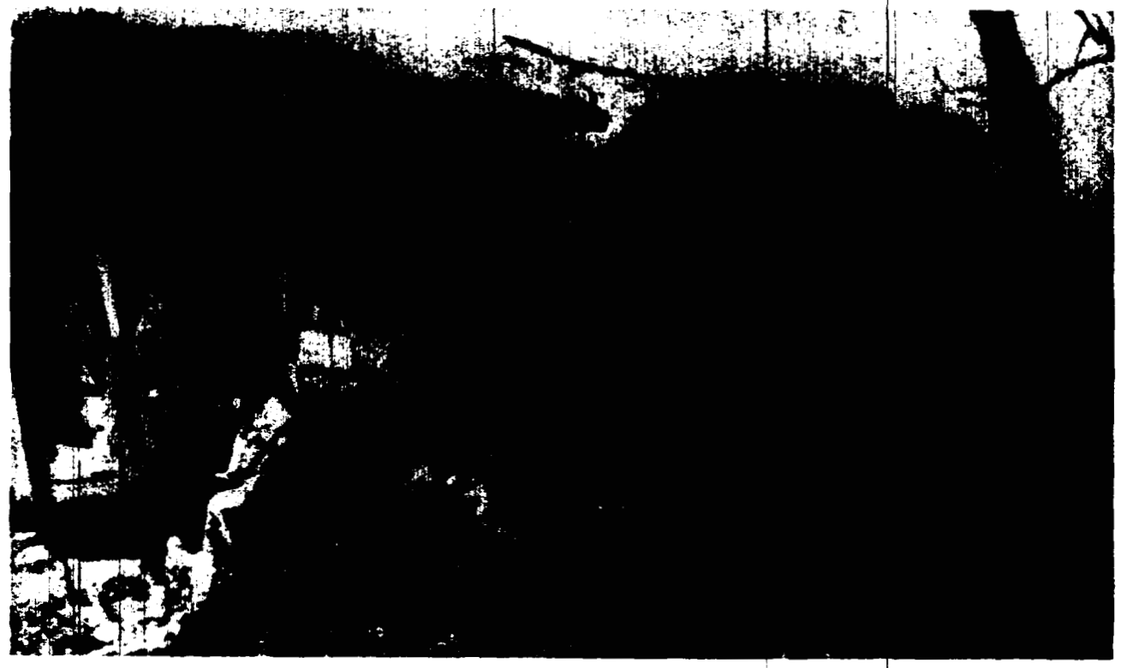
The Ordnance Department and the Service of Supply of the U. S. Army, together with industrial America, have provided the U. S. Soldier with the best fighting weapons in all history. These weapons are better than those of any other nation—in spite of malicious rumors to the contrary. How do we know? Well, we, the United Nations, have captured quantities of the enemies' weapons, some of every type they use. We have compared them with ours and ours outperform theirs in every respect. We have captured both German and Japanese tanks. Type for type ours have heavier armament and greater speed. Much has been said for the German 88mm. gun and yet we have the more powerful 105mm. and 155mm. guns and howitzers. In fact our smaller 75mm. antitank guns have been so improved and muzzle velocity so increased that today they are the equal of or are superior to the German 88mm.

Both Officers and soldiers must treat these weapons with respect for they stand between them and the triple threat of death, hospital, or enemy labor battalion. Soldiers have been taught what their weapons will stand and what they will not stand. They have been trained in their servicing and maintenance. One little loose wire, one faulty spark plug, one speck of dirt in the feed line can render the best tank, the best fighting airplane *hors de combat*. Fighting weapons today are machines and must be serviced continually like the automobile, the airplane. Adequately serviced they will perform wonders, but woe unto the man, and the unlucky ones who are his comrades, if he, for one moment, relaxes his vigilance in the care of whatever piece of ordnance he finds himself in charge. Failure of that piece, through his carelessness may not be strictly classed as sabotage but the comrades of the offender will probably so name it—in their minds at least; mechanized warfare has brought added responsibilities.

A light German tank knocked out during a battle in Libya.



Use of Antiaircraft Guns Against Tanks



German 88mm gun captured by Russians. Originally designed for use against aircraft, it can be elevated to ninety degrees.

IN the Soviet-German War the Red Army antiaircraft artillery has learned to combat tanks as well as planes. Dual purpose antiaircraft guns make good antitank guns because of their high muzzle velocity, high cyclic rate of fire, and 360° traverse.

In the first six months of the war Red Army antiaircraft artillery fired in self-defense at enemy tanks when they broke through to the battery positions. Gradually the antiaircraft artillery became an organic part of the antitank defensive system. In numerous instances Soviet antiaircraft guns successfully repulsed attacks of large German tank units.

The antiaircraft units learned that most tactical operations seem to divide themselves into two phases. In the first, army artillery concentrates heavy fire on enemy tanks before they can jump off. It then lays down a screen of fire to prevent the enemy tanks approaching forward lines of defense and breaking up the infantry formations. At this time the antiaircraft units are busily engaged in repelling the attacks of enemy aircraft, particularly dive bombers, which attempt to open the way for the tanks.

In the second phase, after enemy tanks have broken into the initial line of defense or deeper, the enemy aviation generally shifts its attack to counterattacking or reserve units. In this comparative lull antiaircraft guns fire at the German tanks by direct laying; the more point blank the range, the more effective the fire.

It must always be remembered, however, that the prime function of antiaircraft artillery is against planes. In areas where there is insufficient antitank artillery, antiaircraft guns must be employed to drive off tanks which approach the battery positions or threaten to break up the battle formations of the troops.

In order to successfully combat enemy mechanized forces the antiaircraft artillery must prepare its antitank defense in advance. When the guns go into position they must be ready to open fire against attacking tanks immediately. To establish such a system it is necessary to:

(1) Make a complete study of the surrounding terrain, particularly as regards possible tank approaches;

(2) Determine the sector of fire for each gun, including ranges to key reference points;

(3) Build the minimum amount of field fortifications necessary;

(4) Establish special antitank observations points.

All antiaircraft personnel not working at the guns during a tank attack take up positions in the vicinity and use hand grenades, gasoline bottles, or armor-piercing bullets against the enemy tanks.

ANTITANK RESERVE*

*By Major General F. I. Samsonov, Artillery***

THE strength and composition of antitank artillery reserve in defensive operations must necessarily be determined by general decision of the commanding officers based on appraisal of enemy terrain and on their own forces.

The Germans introduced several changes in their tactics during the summer of 1942. Basically, these changes amount to the following: The Germans usually employ small groups of tanks, operating in combination with infantry and supported by aircraft and artillery defense positions. As soon as a gap is formed the Germans bring up large numbers of tanks, bearing landing troops, lorried infantry and short-range artillery. Assault planes and dive-bombers are in constant activity throughout operations. If the Germans encounter antitank obstacles and a well-organized system of antitank fire in depth defenses, they immediately block this resistance center, try to outflank it and continue movement. Last year German tanks very often stuck to roads, but this year operations against our defenses are usually undertaken after *careful reconnoitering to detect vulnerable spots.* Tanks emerge on roads only after defenses are broken. We should add that these tactical methods are employed only against defenses erected long beforehand.

*By cable, exclusive to The CAVALRY JOURNAL through ICN.

**Red Army. AUTHOR'S NOTE: *The author does not pretend to cover these questions thoroughly nor does he claim complete infallibility in his views, which are based on personal experience and close study of available data augmented by direct participation in actual fighting.*

A Red Army tank destroyer is shown in action smashing Nazi tank attack.

The Germans still employ large masses of tanks brought into action after a brief air and artillery barrage against defenses erected in the course of battle. In doing so the Germans calculate on an insufficient organization of fire, inadequate strength of defenses, incomplete and hasty sapper work and consequent low perseverance of the defenders. Should this plan fail the Germans immediately shift to the first method described above.

Obviously these changes in the employment of tanks were necessitated by heavy losses in the Nazi panzers in May-June, 1942.

The modified Nazi tactics allow of the following tentative conclusions:

1. Every division must possess an antitank artillery reserve to intensify antitank fire at the point of the enemy's main tank attack.
2. This reserve should possess sufficient force to repel enemy tanks attempting to pierce the defenses.
3. The reserve must deploy before the enemy manages to break through the defense positions of the division's first echelon.
4. The reserve is obliged to maneuver under heavy enemy air attacks.

With these factors in the wind, let us discuss the force and composition of an infantry division antitank reserve and outline the fundamental principles of its utilization in defensive operations.

Cases have been known when a division, allotted a front of extra-normal length and with inadequate artillery reinforcements, either abandons any idea of organizing an antitank reserve or seeks to form such a reserve by assigning additional tasks to the antitank batteries attached to its regiments. This tendency reveals an attempt to be equally strong everywhere, which of course is unfeasible.

The above instance permits of two solutions: Either antitank fire at the most likely points of enemy approach brought up to a maximum density by concentrating available artillery at these points, and in that case not organizing artillery reserve, or organizing such reserve disregarding the inadequate density of fire in the division's first echelon. The first plan enhances the density

Red Army antitank unit covering an advancing infantry unit during the fighting for a German-occupied village on the Southern Front.

of fire at likely enemy panzer approaches, but precludes the maneuver of weapons. The second plan enables the maneuver of antitank artillery, but reduces the density of its fire.

Which is more dangerous and which should be preferred?

Undoubtedly the enemy is hardly likely to attempt to break the defenses along the division's entire front. More likely he will seek a relatively narrow sector of this front. Hence a large part of antitank weapons distributed along the front will not be put to effective use against enemy vehicles. This consideration itself should suggest the second plan. Indeed the plan commends itself all the more since in consequence of the length of the Russian Front our divisions often hold an extra-long sector. Besides we should remember the high degree of mobility of the enemy tank forces. Considering this, average density of antitank fire per mile of front is not a guarantee against persistent mass tank attack, particularly if the latter counter-attacks at one narrow sector. Therefore, the organization of antitank reserve, irrespective of the length of the front and available antitank weapons should be regarded as sound judgment.

The makeup and strength of the division's antitank reserve is determined by the number of probable tank approaches, available artillery, grouping of enemy forces and available information as to the enemy's intentions. The number of likely tank approaches depends on the nature of the terrain and the length of the front. At any rate, we can expect two, three, and in some cases even more such vulnerable spots. The strength of the antitank artillery reserve depends on the amount of available antitank artillery, on the grouping of enemy forces, and enemy intentions, ignorance of which would naturally require a greater reserve, whereas more definite knowledge of enemy intentions permits a smaller reserve.

All this leads us to the conclusion that the artillery antitank reserve should be strong enough to repel enemy panzer attacks at the major directions.

1942 operations show that we must be prepared to repel an enemy combined tank-infantry attack on a front from 1.5 to 3 kilometers long. This line can be covered by effective point-blank antitank gun fire of one or two batteries. However, an artillery reserve stretched out in a thin line will fair to produce the desired effect and consequently an additional battery is required to give our fire some depth. The addition of a company of antitank rifles always proves useful. This unit possesses a high mobility and working in conjunction with artillery batteries provides the division commander with a reliable means of repelling enemy panzers. If the division possesses an antitank regiment, it should be used in conjunction with the reserve entirely or in part rather than be distributed among the infantry regiment. In this case, too, the allocation of an antitank rifle company to the reserve is to be recommended.

Let us examine some problems connected with the

Protected by antitank unit in rear, dismounted cavalrymen storm village on Northern Front

utilization of an antitank reserve. It should be borne in mind that artillery reserve, while offering effective means of combating tanks, is itself inadequately defended from enemy infantry fire. Therefore in deploying artillery for battle, special care should be taken to organize inter-action with the infantry which must protect it from enemy rifle units. In some divisions this is achieved by deploying an antitank artillery reserve in the zone held by one of the infantry battalions in the regiment's second echelon.

Plans are made beforehand for joint action in combating the enemy breakthrough. A plan providing the proper defenses should be worked out in good time. Sapper antitank obstacles alone cannot check an enemy panzer attack. They become very effective, however, when combined with fire which prevents the enemy from removing obstacles. In that case, the augmenting of obstacles requires much time, the tempo is reduced, some tanks are brought to a standstill and artillery is afforded a favorable chance of destroying them.

In choosing the location for deploying the reserve, care should be taken not to concentrate it at one spot and thus expose it to the enemy's airforce and long-range artillery. As a rule reserves should be deployed in battle order at the most likely panzer approach or within close proximity of such, approximately two or two and one-half kilometers from the front line. If the terrain permits, the best choice is the second range of elevations behind the defense line. That gives the reserve added protection from enemy surface observers and permits it to open effective fire on enemy panzers as soon as they overcome the front line and approach the summit of the elevation held by the first echelon.

The shifting of an antitank reserve to another direction is a highly responsible task. The exact moment when the reserve should be ordered to another zone is difficult to determine, chiefly because the enemy attack will be undertaken on a wide front and at first it is difficult to determine the direction of the main blow. Some indication of this is provided by the intensity of aerial artillery and mortar fire. The direction of the main blow will probably contain more tanks, but this is hardly discernible from the front-line dispatches, while neither the commander of the division nor the division's artillery officer will usually be in a position to observe the entire battlefield. Reconnaissance data may provide a fairly reliable clue. But even when the direction of the enemy's main blow is detected this does not yet indicate the necessity to shift the reserve in that direction. If this direction coincides with the appraisal given by the division commander in drawing up the plan of defense; and if, in accordance with this, the direction was sufficiently reinforced by artillery, the enemy attack will probably, as is often the case, meet with no success. It may turn out that the enemy scores a success at a secondary point and will immediately press home his advantage by pulling up fresh reserves. At this moment, antitank artillery reserve may prove of decisive value.

Value of Reconnaissance

EDITOR'S NOTE: *From authoritative sources it is learned that in the accounts of the war which have been appearing in the Soviet press recently, the criticism of the failure of commanders to make a thorough reconnaissance has appeared more than any other. The following account is quoted as an example:*

A GERMAN center of resistance was encountered in the southern sector of the Western Front. It occupied a small village situated on an elevation which afforded excellent observation. On both sides were small trees. About eight kilometers from this village was an important railway junction in Soviet hands and which was under constant threat from the Germans. The German strength was less than a regiment of infantry plus a regiment of artillery and about 30 mortars and 5 tanks.

The Soviet commander of the unit making the first attempt to reduce the position failed to make a careful reconnaissance and did not realize the depth of the snow over the route his tanks were to attack. After the first attempt the tanks became stuck in the snow and the infantry came under artillery fire and had to withdraw. The second time the tanks reached the edge of the village but the stubborn street fighting of the Germans caused the attack to fail.

The new Soviet commander who was assigned, *made a careful reconnaissance,* located the enemy weapons and ascertained the German scheme of fire. He found that on the German left flank the firepower was weak and almost lacking in antitank weapons. The plan then was to clear the tank approaches of snow and attach to the tanks sleighs carrying accompanying weapons. The artillery was to lay a barrage directly to the front to deceive the Germans as to the direction of attack. The snow cleaning was commenced at dark; some time later the artillery opened fire. The subsequent action was rapid; the tanks reached the village and the accompanying weapons were pulled from the sleighs and put into action.

The Germans required time to change in meeting the attack and this gave the tanks and accompanying weapons opportunity to deliver effective fire against the dugouts. The Soviets had 15 tanks, 14 mortars plus machine guns; the latter were used to drive the Germans from houses. The artillery which accompanied the tanks was used against machine gun nests and for counter battery.

German reinforcements were sent from a neighboring village but a few light Soviet tanks which had been placed under cover in the village as soon as the German left flank had been penetrated, plus the small reserve which had also been moved up, were thrown against these reinforcements. The main Soviet infantry force was then able to approach the village and reduce it.

Red Army cavalry reconnaissance patrol breaking into a village occupied by the enemy.

Under heavy enemy artillery fire, members of a Cossack Cavalry unit cross a causeway over a river in the Don Region near Stalingrad.

Red Cavalry Near Stalingrad

Protected by steel helmets and armed with submachine guns, Cossacks charge over a hill and into action.

Caucasus Fight Estimated

*By Stanley Washburn**

IT would be rash for any one at this moment in the absence of current information and evidence to prophesy in regard to the campaign in the Caucasus. It seems possible, however, to make certain estimates of the campaign in the East based on experience of Russia in the past. In a letter to THE TIMES last September, this writer stated that "war, like all other conflicts in human thought, would be won by character and morale and not purely by material means." At this time the situation in Russia, though extremely critical, is by no means desperate. These conclusions are based on deductions rather than on exact information.

It was somewhat encouraging to read that the Russians were throwing in large numbers of cavalry, especially Cossacks, and such optimism as I feel is based on extended experience with Russian cavalry from 1914 to 1917.

The Russians used cavalry for two purposes: first, to mop up after a break in the line; and second, which is pertinent now, for rear-guard actions. This writer was in almost every Russian retreat up to 1917 when there were not two going on at once—and there is a big difference between an orderly prepared retirement and a rout. When their situation became untenable and an ultimate retirement was necessary, they almost always left huge blocks of cavalry to hold off the advancing enemy while they got out their heavy guns and matériel. The infantry would retire in big jumps, from thirty to thirty-five miles a day, and rest on a prepared line, of which they usually had three, twenty to thirty miles apart. The line of resistance was usually along a ridge of hills and a wooded country.

DISMOUNTED CAVALRY

Dismounted cavalry when used as infantry provides three men in the front line to one who takes care of the horses. In other words, 75 per cent of the cavalry corps is used as infantry with light field guns and machine guns. This always required the enemy to develop a full offensive and bring up their heavy guns, then the cavalry would mount their horses, catch up and retire behind the infantry. They would repeat the same tactics month after month, always taking the maximum losses from the enemy and losing the minimum themselves.

It was mostly by the use of cavalry in 1916 that the Russians captured 496,000 prisoners. It may sound incredible, but I was in a series of actions with the Russian Southern Armies (Seventh, Eleventh and Ninth) in 1915 where they captured 96,000 prisoners in a retreat which I rate as almost unique in military history. I thought at once, then, when Timoshenko began throwing in masses of cavalry that he had not necessarily run out of reserves but was only following the same tactics which Russia has always used with cavalry. I could name a dozen battles where I have actually seen this.

The introduction of planes and mechanized equipment has certainly altered tactics, but probably has not materially changed the principles of strategy. It is the opinion of this writer that the present Russian High Command is not unforgetful of the campaigns of General Brussilov, who rose from the command of an army in 1914 until 1917, when, on the abdication of the Czar, he was Commander in Chief of all the armies. Brussilov easily rates not only as a tactician but as a cavalry commander with Desaix, Skobeleff and Field Marshal Allenby in the last war.

FAVORED PREARRANGED RETREAT

It may be recalled that after the Russians had taken the Austrian fortress of Przemysl in March of 1915, it was retaken by the Germans in May. When I next saw the general, I asked him why he had given up in three days this fortress which was supposed to be one of the strongest in Europe when, in my judgment, he could readily have held it for two weeks. To this he replied with a whimsical smile, "And I was convinced I might have held it for a month, but in my judgment it is always a mistake to hold temporarily a position which cannot be held permanently.

"Had I remained there, as you suggest, for more than a week, all the Russians and the Allies would have said, 'Here Brussilov stands and here he dies,' and its ultimate evacuation would have been a great moral blow to all our cause. I have followed this same policy in all my retirements. Though retreats are a disappointment, they are not necessarily moral blows as long as one has an army in being and the retreat is adequately prearranged with a series of reserve positions extending for hundreds of miles in the rear."

It has occurred to this writer that it is not improbable that Timoshenko at this time has somewhat the same idea in mind.

The oil wells north of the Caucasus are relatively unimportant, as it is doubtful that they produce over 8 per cent of the total of the Russian oil supply. I do not think the Germans can possibly force the range of the Caucasian Mountains. They would have to go through to the Caspian and along the shore to take Baku, which is the main oil supply. I think we can trust the Russians to utterly destroy everything as they retire, and even if the Nazis took Baku, though they would cut off the

*Reprinted from the *New York Times*, Tuesday, September 1, 1942.

Russian oil supply, it would, I believe, take them a year to get into production.

I base this on my own experience in Rumania when I went down from the staff of the Czar in 1916 to make a confidential report on the strength of the Rumanian Army. It was clear then that the Germans were coming back, and almost the first thing suggested in Rumania was the destruction of the oil fields. It is only germane to this situation to state that the Germans, when they came in with their tongues hanging out for oil, found nothing but ruin; for at Ploesti alone the refineries and the tank farms, where there were nearly 2,000,000 tons of oil and oil products, were completely destroyed at an estimated loss of $75,000,000. High explosives were dropped down every producing well in Rumania, and it was from six to eight months before the enemy was able to get into about 40 per cent of the normal production. By that time the situation on the Western Front had changed so greatly that it was too late for them. I see no reason why we shouldn't anticipate something of the same nature in the present campaign.

The second front is, of course, enormously important not only from a military point of view but psychologically. After the fall of Warsaw in August, 1915, there was a very strong movement for an independent peace, for the Russians felt that the British were not fighting at the same time in the West. I speak advisedly in this connection, as I wrote the statement for the Russian Foreign Office which was signed by Sazonov, the Russian Minister of Foreign Affairs.

To recapitulate: first, I do believe the Russians have reserves; second, I doubt that the Germans can take the Caucasus, and, third, if they do, it does not necessarily spell ruin to our cause, though it certainly will prolong the war.

An effort must be made, as Kipling said, to "meet with triumph and disaster and treat those two imposters just the same."

★ ★ ★ ★

Battle for Stalingrad

THE stubborn defense of the arsenal city of Stalingrad on the Volga has thrilled the whole Allied world. On September 15 the Berlin radio said, "Stalingrad's days are numbered." A good many military men agreed with that. The other day the Berlin radio said, "The German Supreme Command does not make predictions concerning Stalingrad."

That the city would fall seemed as certain as anything can be in war. The only question was whether the conquest would be worth the price that the Germans were paying and would have to pay.

The Russian communiqués did not give a clear picture of German casualties. They pointed to 1,000 killed here, 2,000 killed there, and so many at another point. Added up, the total did not seem very great.

However, Colonel Sergueyev, of the Red Army, estimated that 25,000 Germans had been killed in the last week. This would indicate that the Germans were making a general assault on Stalingrad, hurling wave after wave of men at the Russian defenses, heedless of cost.

The Germans denied that any such assault was being made. The Berlin radio said:

"It is once more stressed that a general assault, regardless of losses is deliberately avoided by the German high command, which prefers to take the city by a systematic general advance, although the fall of the city may thus be delayed for some time."

"The Russian armies have not been destroyed," said Brigadier General H. S. Sewell, war commentator for the British Information Services, "and the spirit of the Russian people has not been broken. They have not increased their available supplies of oil. The interruption of traffic on the Volga is serious, but its effects will not be greatly felt until next spring, for by the end of November the river would in any case have been frozen, and the Russians have been making unusual efforts for the last two months to rush supplies up it for storage in the interior.

"In spite of the capture of Novorossisk, the Russian Black Sea Fleet has not been eliminated, and, operating from the small harbors south of Tuapse, is still a menace to Nazi Black Sea traffic.

"Why is Hitler pressing the attack on Stalingrad in the face of his heavy losses? In the first place, he wishes to establish his force in adequate winter quarters and deny the city to the Russians. Secondly, he wants to avoid the embarrassment of having to fight hard during the winter on a long and not too good line of communications; and thirdly, he is thinking of the psychological effect which the capture of Stalingrad would have on the German and Russian people, and, it may be added, on the Japanese.

"It is probable that in October-November, 1941, Hitler sold the idea to Japan that he would take Moscow, and so Japan was encouraged to attack the United States on December 7. He has not been able this year to sell his idea that Stalingrad will fall, and in consequence Japan has refrained from attacking Russia in Eastern Siberia, even though the Nazis have, for practical purposes, reached the Volga.

"Germany is preparing for 1943. Her aim now is to neutralize Russia, and then mobilize the whole great potentiality of enslaved Europe to meet the challenge in the West. . . ."—*The Washington Post*, Sept. 27, 1942.

TANK TACTICS

By C. H. 2.

SINCE the beginning of the present war in 1939 the rôle of tanks and their tactical employment have been subjected to ever-increasing scrutiny. Recently, the announcement has been made that tank tactics have been completely reversed since the German Panzers rolled over the plains of Poland. Careful study tends to indicate, however, that changes in tank tactics have resulted from a natural process of evolution, each development having been an adaptation designed to combat new countermeasures, or new and stronger adversaries and machines.

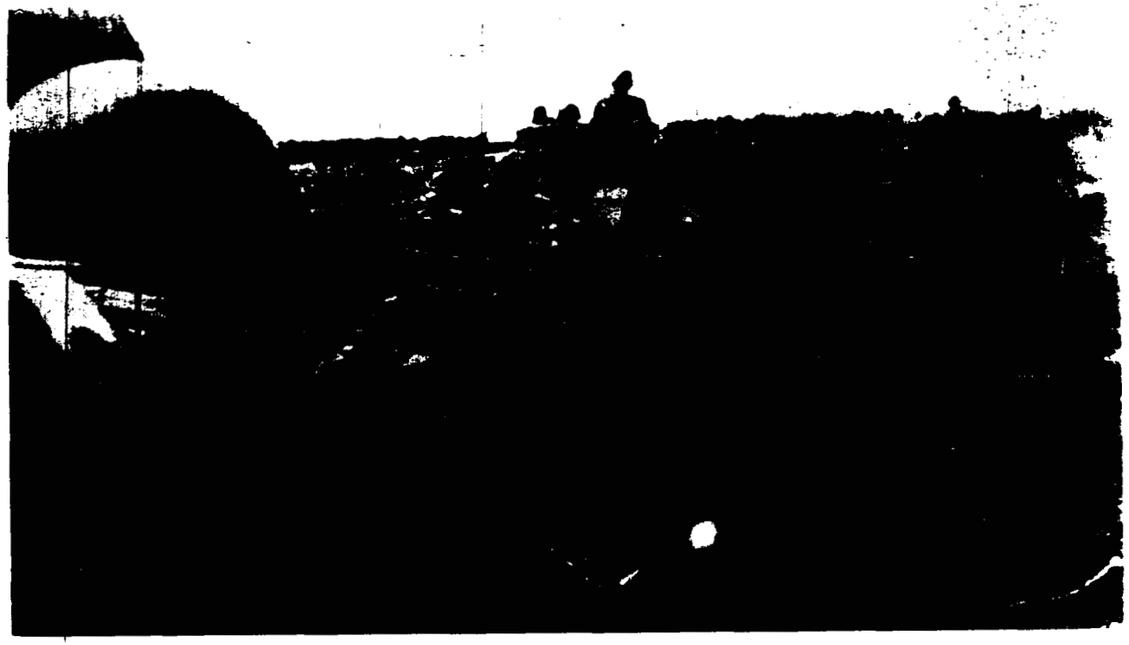
The use of tanks by Germany as the "spearhead" of attack developed from the need of an implement that would penetrate the extended "fixed front" of static trench warfare, thereby creating a war of maneuver and opening an exposed flank for the classical attack expounded by Clausewitz and Schlieffen as drawn from the lessons of Cannae.

From the experimental laboratory of the Spanish Civil War, German tank tactics developed along the line of the *schwerpunkt* and *aufrollen*, defined by Major Miksche in his admirable tactical study, *Attack:* "The movement of a *schwerpunkt* (strong point or concentration) is a continual seeking for the weakest points of resistance, in order to attack them with local superiority. It is a constant swaying back and forth to maintain initiative, superiority, and surprise even in the smallest details of the fight. The *aufrollen* (dispersion) which alternates with the movement of the *schwerpunkt* is the immediate and methodical exploiting of each local success by side thrusts. The *aufrollen* thus protects the flanks of the advancing units."

It must be remembered that when the *schwerpunkt* is attempted, all available weapons are pouring fire at a particular locality in order to further increase enemy weakness. The *aufrollen* then protects the flanks of advancing units, which, on the other hand, should follow *closely* behind the tanks in order that these troops may in turn assume responsibility for flank protection as the tanks continue their spread.

In Poland the *schwerpunkt* penetrated the fixed defenses of the Poles, and the German Panzer units rolled

A captured German mounted armored gun.



A detachment of tanks bearing troops into battle against a Nazi unit on the Eastern Front.

forward easily and quickly to their intended objectives, thus inclosing large areas in wide pincer movements. Due mainly to lack of effective hostile antitank cannon, dispersals were necessary only at strategic intervals, and the rapid advance of the German army created the term *blitzkrieg*—or lightning war.

In Norway in 1940, and largely again in the Low Countries and France, the tanks, supported by dive bombers and wheeled artillery, were used as the spearheads of attack for the German army. After breaking through the outer defenses, these tank spearheads spread out like the branches of a tree opening highway arteries from one objective to another and leaving large sections of the defending forces in isolated pockets to be mopped up by the following waves of light tanks and motorized infantry.

Not until the Germans attacked Russia in 1941 did they encounter sufficient resistance to require detailed refinements in their tactical employment of the armored spearheads. As the strong resistance of the Red army blunted the spearheads of the *schwerpunkt*, the dispersals were made at closer intervals and then redispersed to form even smaller pockets of resistance. The spearhead attack developed into the *keil und kessel**—the wedge, surround, and finish the kill. Red troops who

This adaptation was necessary because of the ability of the Russian defenders to control and destroy the *aufrollen*. The Germans drove in two wedges, amounting actually to spearheads widely separated, then the prongs or spearheads converged together to create the *kessel*. Red troops who were unable to break through and rejoin the main armies met annihilation unless they managed to escape and form guerrilla bands to continue the harassment of the enemy. The rapid advance of the Panzer units, however, had been blunted and the *blitzkrieg* had lost much of its *blitz*.

After almost a year of combating German attacks, the Red army analyzed German tank tactics as adhering largely to the following general pattern:

Large numbers of tanks of all types would be concentrated at the point to be penetrated (*schwerpunkt*). These were supported in force by additional concentrations of bombardment aviation and heavy artillery, and followed closely by motorized infantry, engineers, and other supporting troops. The attack was opened with a heavy bombardment by artillery and dive bombers that covered in considerable depth the entire front through which the break-through was anticipated. This was followed by the tanks in two waves. First the heavy and medium tanks moved forward rapidly and, ignoring the enemy infantry, attempted to knock out all antitank defenses and penetrate to the area of command and heavy artillery in order to reduce the artillery's effectiveness on the light tanks and motorized infantry that were following. Close behind the first wave of tanks came the second wave, composed of light tanks, whose mission it was to harass and mop up the opposing infantry and pave the way for their own motorized infantry, which then began to pour into the breach.

*Nov.-Dec., 1941, issue of The CAVALRY JOURNAL.

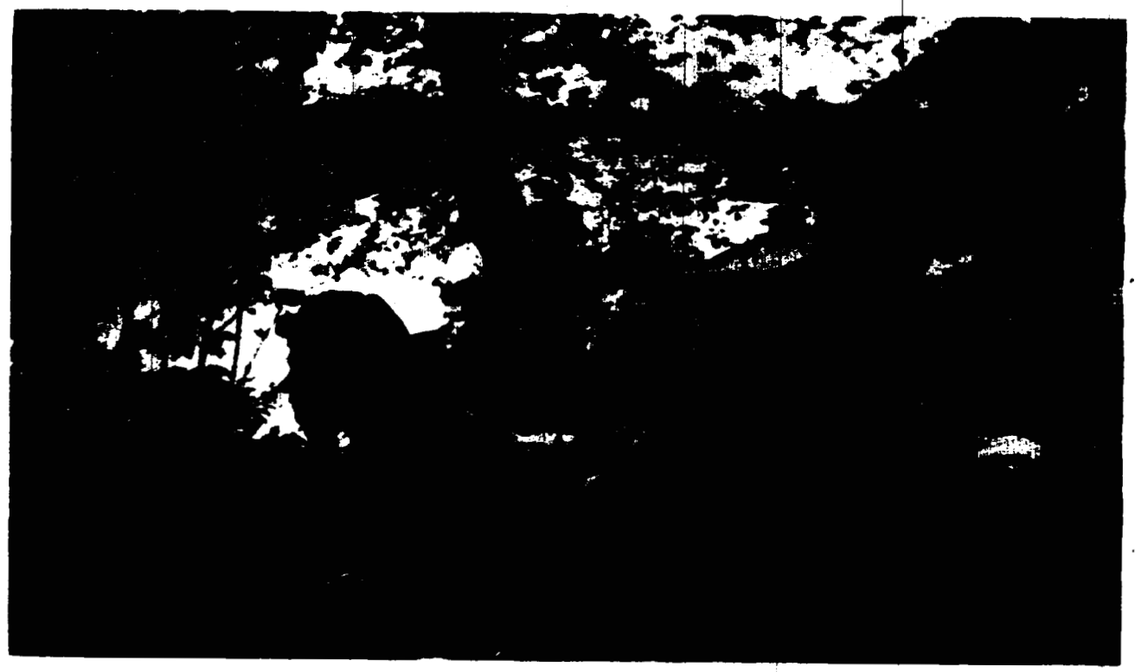
widening the gap into a bulge and mopping up remaining pockets of resistance.

In order to counter the great effectiveness of this method of attack, the Red army settled upon a more or less uniform method of defense. The armored units were held from 6 to 9 miles in the rear, a distance designed to minimize the effect of enemy artillery and aerial bombardment with which the attack was opened, yet close enough to be available when needed. All tank unit commanders were instructed to have ready at all times a definite plan of action in the event of a break-through, the most important point of this plan being to close with the enemy heavy tanks at the first possible opportunity. This immediately eliminated the German artillery and aerial bombardment and left a tank vs. tank engagement, in which the Red tanks were believed to have a slight advantage because of the necessary losses suffered by the Germans while penetrating the antitank defenses.

Several Soviet press reports have cited examples of the success of this method of combating tank penetrations. At Myedoye on the Kalinin front in the early spring of 1942 the Germans succeeded in making a break-through of the Red lines. Heavy tanks of the Red army, held in the rear of the front lines, quickly closed with the German tanks, and the German dive-bombers were immediately rendered helpless, hovering above their tanks but unable to give them support. The German tanks were thus forced to halt their advance until other means of support arrived. This came by way of the light tanks which moved around the flank of the heavy tanks to strike at the infantry and light tanks in the rear, but were met by Red tanks, both light and medium, which struck at the German flanking force and turned it back. The Red tanks, supported by infantry, antitank and antiaircraft units, then moved forward through the German tank lines and forced the third wave of the enemy penetration—the motorized infantry—to withdraw. In summarizing this action, success was accredited to the correct employment of tank tactics as well as to the proper disposition of tank units for support behind the infantry and artillery main defense lines.

Another conclusion regarding tank warfare that the Red army has drawn from its long conflict with the Germans is that the main elements of the tank attack—tanks and motorized infantry—should never be separated. The importance of this conclusion is indicated by the habit, developed out of necessities growing from actual combat, of the infantry riding forward on the tanks in any place or position that a toe-hold could be secured.

On the other hand, examples abound of the futility, and often tragedy, of allowing a separation to occur between tanks and infantry. Such an example was reported last spring when a Red armored unit, having prepared and concentrated in a manner similar to that used by the German Panzer units, attacked a thickly populated area in the center of which was a city well fortified by the Germans. The heavy tanks first forced a dent in



A company commander (center) giving details of an assignment to his tankists.

the front defenses, then penetrated the antitank defenses and proceeded on through the city to the outer limits. Meanwhile, the supporting infantry having run into heavier resistance than it could handle, had not been able to follow. The tanks consequently found themselves isolated and without support. Unable to proceed, they were forced to turn back through the city to assist the infantry in knocking out the impeding machine gun nests and rifle units. When the Red tanks and motorized infantry regained contact and mutual support they moved forward through the city, and the tanks were able to refuel, repair, and reorganize under the protection of their supporting infantry and artillery.

Another trend in tank tactics that the Red army has apparently adopted during its year of experience in fighting German spearheads is the practice of a wide distribution of armored units along the entire front, whether for offensive or defensive action; for at whatever point the concentration of strength is lowest, the enemy *schwerpunkt* will seek to make its penetration and consequent *aufrollen*.

In direct contradiction to this, some military observers are of the opinion that the Russians could have used their armored units more effectively had they kept them in large groups and used them for counterattacks, seeking broader decisive results rather than local successes.

With each new counter measure, however, the Germans have flexed their tactical employment, and tank tactics, as observed during recent months in Libya and Egypt, indicate a still different phase of tank employment. For the first time during the course of this war German aerial bombardment support has been largely neutralized by American and British aviation. This has evidently weakened the Soviet theory of closing quickly with the attacking tanks in order to eliminate the enemy dive-bombers. Information now being received seems to indicate that both sides are trying to avoid tank vs. tank engagements wherever possible, although it is conceded that they cannot be avoided entirely.

Another interesting phase of tank employment developed in Libya where Rommel often brought up tanks to lay down artillery barrages at British tank formations at distances up to 3,000 yards. To combat this, the range and effectiveness of tank armament was materially increased, and the "General Grant" evolved with its increased armament and its 75mm cannon in the turret, which for the moment at least, seems to be a good answer.

In both Libya and Egypt, tank columns have usually lead the Nazi attack on British positions. When face to face with British tanks, however, on several recent occasions, Rommel has quickly brought up antitank batteries, artillery and infantry and returned his tanks to the rear. Then while antitank guns engage the British, he has fanned his tanks to either flank in an effort to slip behind the main British forces and carry out the classical harassment and destruction of rear installations.

Briefly, Rommel's successes seem to have been in so maneuvering his forces as to lure British tanks against antitank guns, avoiding tank vs. tank fighting unless his tank guns have outranged the British (which has been the case in many instances in the past), and thus saving his tanks for use in rear areas to interrupt and confound communications and supply routes and agencies.

From these studies, two deductions regarding tank employment seem logical. First, the use of tanks by Nazi Germany, to a great degree, has been as a medium by which the war of maneuver has been established and perpetuated thus making possible, by one means or another, the flank attack of Cannae, Clausewitz, and Schlieffen; secondly, with this fundamental purpose always in mind, successful tactical employment of armored force units has been at all times sufficiently flexible to be altered quickly to meet any adversary or contingency.

The Nazis apply Clausewitz's teachings on the battlefield in an even more "total" manner than Ludendorff could do, or could have conceived of doing. Using machines instead of masses of men, they attack the whole of the forces of the enemy throughout all of the territory held by that enemy; or rather they threaten and disrupt those forces by penetrating deeply into the territory. — MAJOR F. O. MIKSCHE, *Attack*.

THE BATTLE OF LIBYA*

IN all the British Commonwealth's land successes of this war, tanks and motorized high-speed armored troops have been the deciding factor. The British infested the Italians' East African Empire with motorized and armored forces, capturing 150,000 prisoners; General Wavell, with tanks, motorized infantry, armored cars, and air support, destroyed the Italian army in Libya, taking 135,000 prisoners; and Britain's other armies in the East are mainly high-speed motorized and tank forces.

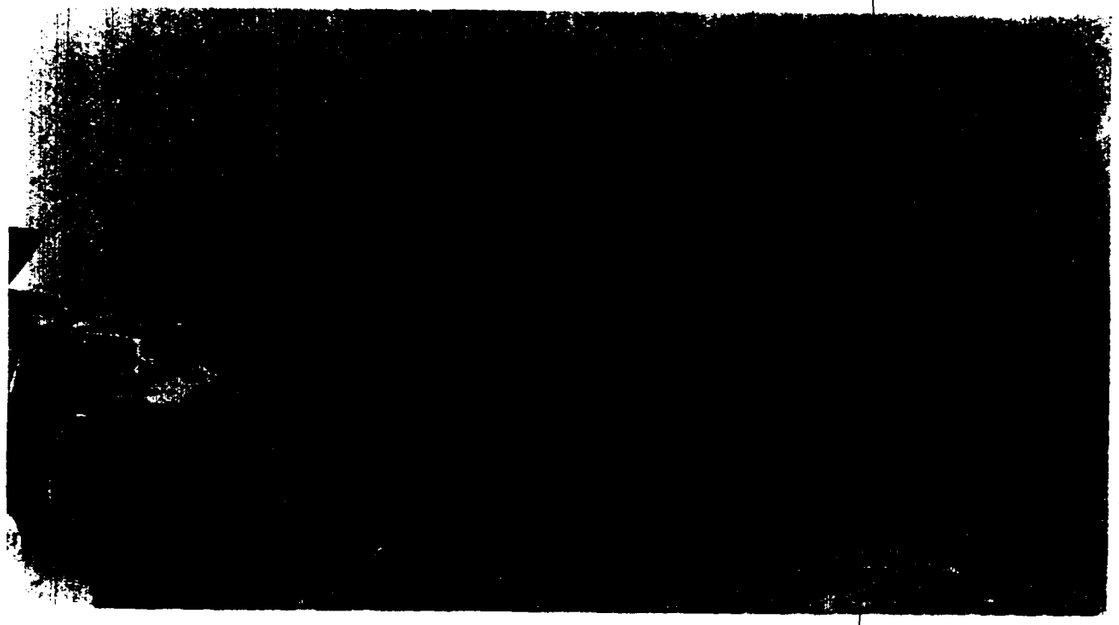
British tanks are fighting along a vast semicircular front that extends from the Libyan border to the shores of the Caspian Sea, south of the Russian oil base of Baku. At the southern end of the semicircle, Commonwealth forces, based on Cairo, are fighting the Battle of Libya. The central section of the front runs along the Syrian-Iraqi frontier to meet any attempted sudden attack by German forces based on Bulgaria, and the right wing skirts the Russian Caucasian frontier to join the Russian front defending the Caucasus and Baku.

Egypt and India are the British Empire's great military bases in the East. Egypt, which has no natural resources for the creation or maintenance of a modern mechanized army, is being constantly supplied by Great Britain, Canada, and South Africa by ships steaming around the Cape of Good Hope and up through the Red Sea, now dominated by the Royal Navy, or coming in convoy through the Meriterranean. Over these routes is flowing also, in an ever-increasing stream, a huge volume of supplies from the Defense Aid Program of the United States. American tanks have already distinguished themselves in desert fighting, and American Ordnance officers and men have set up maintenance shops in Egypt to "keep 'em rolling."

Modern mechanized armies need rapid and reliable means of communication, and the British armies in the Middle East have improved the highways and rail transport leading along the North African coast to the Libyan border so that they now can carry any volume of traffic. It has been decided to join the present northern terminus of the Palestine Railway at Haifa with the southern terminus of the Mediterranean branch of the Taurus Railway at Tripoli in Syria.

The Battle of Libya, which has flared up again with renewed intensity in recent weeks, is one of the greatest tank struggles in history. Under incredibly severe conditions of climate and terrain, and with staggering problems of supply and maintenance, the British tank and motorized forces based in Egypt time after time have repulsed attacks by the German armored forces under General Erwin Rommel and have driven deep into enemy-controlled territory. The present phase of the battle, now in progress, may decide, once and for all, the fate of North Africa, the Suez Canal, and the nations of the East.

*Courtesy, *Army Ordnance*.



AB EL ALAMEIN
British tank unit moving forward under cover of a smoke screen and protected by the tanks.

From a British Officer in North Africa

Clouds of black smoke rising from a heavy German tank, which is blazing furiously after an engagement with British tank units.

EDITOR'S NOTE: *A cable received from Cairo gives this vivid picture of action in the desert, as experienced by an officer of the 9th Lancers, one of Britain's famous cavalry regiments that are a part of the Royal Armored Corps now serving in North Africa. No dates or place names are given, and it is not possible to locate the battle in which the fighting took place, though it is probable that there have been many such combats, and that fighting of the same sort is of frequent occurrence in the area where the British and Axis forces are now engaged.*

"We, and the Queen's Bays (2d Dragoon Guards) started off by attacking German tanks firing their 88mm guns. Our tanks charged in under a smoke screen, and the German troops put up their hands and surrendered. But when our tanks passed through, the Germans dived for their guns and shot our fellows from behind. Our next line of tanks coming up caught those Nazis nicely. Our bag was four 88mm guns and six 50mm guns and 250 prisoners."

An officer who served in France in 1918 in the same brigade with the 9th Lancers, who were then horsed cavalry, reports a similar incident during the German retreat from the Somme. At that time the Germans covered their retreat with light machine guns, each with a team of three. These men fought bravely and often to the death.

The British cavalry advancing from point to point at the gallop in pursuit of the retiring Germans, frequently swept over these posts, which had been knocked out by artillery and machine-gun fire. But on one particular occasion a German machine-gun team, which appeared to be dead and had been ridden over by the 9th Lancers, came to life and shot into the backs of the advancing cavalrymen. Needless to say this post was overcome by the supporting British squadrons. After that incident the cavalry troopers learned that when they rode over "dead" Germans, it was wise to use their swords or lances to make sure of their state. As they said: "If they are dead, it does no harm, and if they are alive, it does a lot of good."

Officers of the 9th Lancers (1918 and 1942) agree that the German character does not change and his way of fighting is the same today, as it was twenty-four years ago.

To continue the story from North Africa:

"Our best show came two days later when a force, made up of 9th Lancers, Queen's Bays, and 10th Hussars, supported by the Honorable Artillery Company (a London Territorial unit) and a battalion of the Rifle Brigade, fought the 15th and 21st Nazi Panzer Division. Again and again they tried to rush us, but as soon as they got to close quarters, our cruiser tanks would sweep around and take them on the flank. Then we would pound each other till the air hummed with armor-piercing shots and flying shell splinters.

"I take off my hat to those artillerymen from London. It was not so bad for us sitting in tanks, but they were out in the open in a perfect hell of bullets, shells and splinters, loading and firing as if on parade. The ferocity of the fighting may be gauged by the fact that our ammunition vehicles had to be replenished four times while in action during the day.

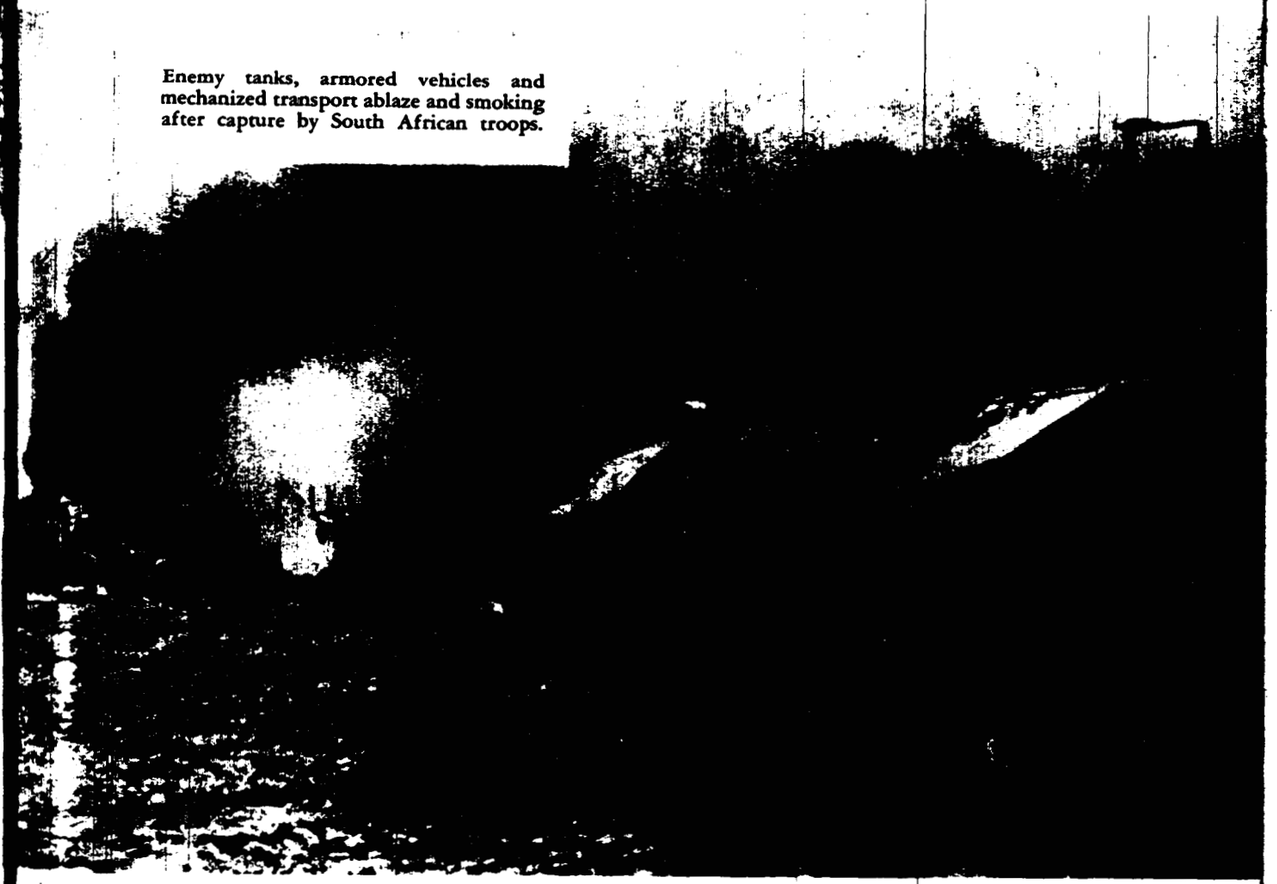
"No praise is too high for the personnel of the ammunition trucks, who risked being blown up every time they drove up into the inferno, and the fitters who gamely repaired the tanks under the hottest fire.

"When we expected, at the end of the day, a final mass attack, the Nazis drove off, towing their crippled machines and leaving many wrecks of Panzers around us. It was certainly a grand show.

"One of the smartest little actions I have seen took place two weeks later. Our cruiser squadron, consisting of eight tanks, attacked a German column, complete with antitank guns. Under a smoke barrage our cruisers overran the enemy guns and captured the whole column with a loss of only one tank. This tank was hit 100 yards from the enemy and caught fire. The sergeant in charge ordered it to drive on to within thirty yards of the German guns, when the heat became unbearable. He stopped, grabbed two hand grenades, jumped out and hurled his grenades at the gun, knocking out the crew. Meantime his driver was wedged in and could not get out, so the sergeant saved his life and the two men were picked up by another tank.

"No doubt the Nazi is a good fighter, but on equal terms—often unequal terms—our chaps beat him. Our division is fortunate in having famous regiments with old traditions; also, we have complete coöperation and confidence."

Enemy tanks, armored vehicles and mechanized transport ablaze and smoking after capture by South African troops.



A German 88mm on carriage which was put out of action in Libya by British artillery.

The German 88MM Gun

WITH the return to Fort Knox of Armored Force officers and men who participated in the battle of Libya, the now-famous German 88 millimeter gun that figured heavily in the Nazi advance into Egypt has become a popular topic of militaristic conversation and, it would seem, misunderstanding.

To the returned American officers, the performance of the 88 is of less importance than their conviction, shared by other American officers, that the American "General Grant" tank is the best tank in the war.

While the big gun of the "General Grant" will penetrate the armor of the German Mark III and IV tanks, the guns of the German tanks encountered in Libya will not penetrate the "General Grant."

As for the 88, the three American tank crews never came under its fire, though they exchanged many shells with Mark III's and Mark IV's.

"The best way to escape being hit by an 88," one artillery officer explained, "is to avoid being sucked into a trap. There's no tank made that is capable of slugging it out with an 88 or with our American antitank guns.

"The problem is not that of putting an 88 or bigger gun in a tank, because the tank has not been made that is big enough. The problem is, rather, how to maneuver and use artillery and bombardment aviation to neutralize the 88's so the tanks can get past."

The German 88, an old model antiaircraft gun, lacks the high mobility of American antitank weapons and is usually half-buried in the desert sand, camouflaged, to wait until an unwary tank commander has been lured into range.

Colonel J. C. Crockett, intelligence officer of the Armored Force and former acting military attaché in Berlin, told of his observations of the German 88 as follows:

"In the fall of 1935 I visited an antiaircraft battery stationed near Furstenwalde outside Berlin. When I got there they assigned me to a battery of 88mm antiaircraft guns. They took me first in a personnel carrier, a heavy cross-country half-track that tows the gun. Another similar section carries the ammunition, and there are four guns in a battery.

"The gun is primarily an antiaircraft weapon, and can be elevated to almost 90 degrees, but even at that time the crew was so trained that they showed me it could be depressed to minus 3 degrees, which made it available as an antitank gun. The Germans didn't stress that feature then. When used horizontally, it has a traverse of almost 300 degrees. As the gun was primarily for antiaircraft use, its personnel belonged to the *Luftwaffe*—the German air force is charged with all antiaircraft operations.

"The Germans undoubtedly learned a great deal in the tactical handling of the piece in the campaign on the Western front. There they had great success using it to fire into the apertures of fortified positions. Because of the high velocity—approximately 2,900 feet per second—the projectiles would penetrate the armor of the French fortifications and jam the revolving cupolas. It's easy to see how the Germans drew the conclusion it would be a good weapon against tanks.

"To criticize the American tank because it could be knocked out by the 88 gun is bad logic because a tank could be knocked out by a naval gun or any of several other big rifles. Conversely, the fighting crew of the 88 is extremely vulnerable as compared to a tank crew. The gunners have no protection whatever. One man dragging a light machine gun and taking advantage of cover to be found even in the desert could have entirely neutralized and destroyed the crew of the gun, because there is no armor whatever. To attack an 88mm gun with a weapon which it could most easily hit and put out of action is faulty tactics.

"We have seen the day in which the *blitzkrieg* was considered the magic key to victory, and the day in which the stuka held the same place. Now we are passing through the day when the magic key to victory is the 88mm gun. Victory lies in skillful leadership and fighting qualities of troops."

Antitank Guns—Covering Forces

AS a result of the battle in North Africa just before the fall of Tobruk, in which the British armored force lost nearly 300 tanks, it is obvious to everyone that the importance and value of numerous units of antitank guns is very great. For the last five years it has been urged in these Notes that our American army should be equipped with effective antitank guns in great numbers and possessing great mobility. Battalions, regiments, and brigades of antitank units are necessary. Every infantry and cavalry division should have an appropriate unit of mobile antitank troops. Every army corps should have a larger unit, and every field army should have still more.

The ruse, or tactical stratagem, by means of which the British armored force was lured into the trap of antitank guns, has been suggested frequently in these Notes. It has been suggested that in our maneuvers these stratagems be practiced. It has been suggested that our armored forces should not go tearing or charging into enemy armored forces before some such stratagem has at least been attempted. And these Notes have also suggested that when our armored forces are advancing to attack enemy troops of any kind, they should be preceded by some form of covering force.

There is, of course, a defense for every kind of attack—just as in fencing there is a parry for every thrust. The difficulty lies in applying these defenses at the right place and right time. But also, there are certain precautions that must be taken even in the boldest of movements. The bolder the movement, the more precise these precautions must be. The swiftness or rapidity of a movement is not unduly affected by wise and skillful precautions for the security of the command if we know how to take such precautions and have had thorough training in such matters.

Had the British armored force, in the battle referred to, used a well trained covering force, it might have escaped such a disastrous defeat. By this term, "covering force," we do not mean an advance guard as that term is commonly understood. We mean a covering force as we used it in the cavalry. A thin line of deployed squads moving very swiftly by bounds from one designated point or line to another, ahead of the main body, is what we mean. In order to gain surprise, we dispense with reconnoitering patrols far to the front. We simply let the covering force bump into anything dangerous that lies ahead, relying on its wide deployment and great mobility to avoid its sudden destruction by ambush. Our flanks are protected from surprise by combat patrols.

When cavalry is available it is ideal for the covering force job. Cavalry has the mobility and the speed for such a job when the movement is across country; but when the first part of a wide envelopment or turning movement is made by using roads, the mechanized troops would move faster and for longer distances than cavalry is capable of moving unless it too is transported or portéed by motor vehicles. If thus transported, cavalry would then be in position to cover the movement of armored forces or any other troops when cross-country movement begins.

In the absence of cavalry, an armored force must use its lighter elements for this covering job. Whether bantam cars and light tanks will be able to perform satisfactorily this job on all kinds of terrain remains to be seen. They will not be able to do it in country filled with patches of thick woods, hills and muddy creeks like the country of Tennessee, Pennsylvania, or most of our eastern coastal states.

A covering force carried by motor vehicles of any kind will make lots of noise. Surprise will be impossible. When the enemy learns to use stratagems of various kinds, a mechanized covering force will have to endure losses both in men and material far greater than would be suffered by a cavalry force detailed for such duty.

It is believed, very deliberately, that if the Germans are finally beaten by the Russians, or if the Germans gain only a stalemate in their war on Russia, it will be due largely to the fact that they, the Germans, have relied too much on winning on local battlefields regardless of the cost. We all know moments in military history when a locality has had to be held, or a local battle won, regardless of cost. Often, however, a battle is lost on account of failure to take certain precautions against loss which could have and should have been taken as a common measure of security without undue caution or serious loss of time. There is such a thing as a Pyrrhic Victory. To gain our ends, victory is only a means. It is not the end itself. The losses that Germany is suffering may result in the loss of her ends. Indeed the great victory itself in any one great battle may be lost by too many local Pyrrhic victories.

In simpler words, losses must be considered. Even those battles which we are calling local battles may be lost through too many losses of men and equipment.

A large force of modernly equipped and trained cav-

alry might have spared the German infantry and the German armored forces a great many thousand men and much equipment. This was not so in France in 1940 because of the almost total lack of opposition to German mechanized forces. But in Russia the situation is wholly different.

Cavalry, used skilfully, is the great preventor of undue losses by other arms. Our forces serving abroad may have to do without it because of local conditions and lack of sufficient shipping. But that is just too bad. The conversion of almost all of our cavalry into armored force is an indication that our leaders do not expect warfare on this continent. They may be right. But who knows?

Cossack Vengeance*

IT was night in Kuban. In a deep cornfield Kovtun lay hidden, peering towards the opposite bank of the river, where a Cossack village loomed black in the gathering dark. That village had been Kovtun's home for thirty-nine years. But two days ago it had been occupied by the Germans.

They had entered in the evening and driven Kovtun's family into the street. His daughter, Anka, was seized by an officer. The mother brought a poker down on the officer's head. The Germans hanged them both. Even seven-year-old Tamara was not spared.

So Kovtun, in the cornfield, was a man without a home and without a family. There is an unwritten law among the Cossacks: strike three blows for every one; kill ten for every one.

While Kovtun lay in hiding a squadron led by his father was making its way towards the river. Riding alongside the man was his grandson, Pavel. With them was political instructor Pilchuy. He, too, went to war with his two sons.

Some distance away yet another Cossack squadron was moving towards the river. At midnight these squadrons secretly crossed the river and converged on the village. They scattered through the streets. Not a shot was heard that night. But in the morning 300 Nazi soldiers were found beheaded where they had lain asleep. And the bodies of Kovtun's family had vanished from the courtyard where they had been hanged.

All this was but the beginning. Before midday a loud "Hurrah!" suddenly rang out from the forest south of the village, as two Cossack regiments with drawn swords galloped towards the cornfield where the Germans had entrenched on a crossing to the left bank.

Cossack blades flashed in the bright sun. The mounted force moved on like an avalanche. The enemy tried to stem it with artillery fire. It seemed that the cavalry charge might fail, when a roar of cannon came from beyond the forest. The German guns were silenced.

The sparkling blades flashed like lightning across the field. The avalanche rolled on with cries, whistling and hooting. Suddenly the first German rose and began running towards the river. Then another one followed. Some 2,000 Germans were running in panic from the terrible swords of the horsemen.

Galloping in front of one regiment was Major Konovalov. He overtook a group of Germans and slashed eight of them to death. The ninth fired his pistol and wounded Konovalov, but he, too, was cut down. The wounded major severed two more German heads. Then a bullet hit him in the chest. He dropped from his horse, but was picked up and carried to safety.

The Cossack Noprienko killed four Nazi soldiers and took an officer prisoners. Political instructor Belomesov slashed eight Germans. Kovtun gave full vent to his fury. Though he had spent a sleepless night, he had enough strength left to kill twelve Germans. The Cossacks kept at it for an hour. When they had finished, 1,500 dead Nazis and the equipment of two German infantry regiments lay scattered over the cornfield.

Here is an epilogue—an extract from the diary of Lieutenant Hetzel, commander of the 2d Company, 94th German Alpine Sapper Battalion, found on the battlefield:

"Fighting against us are the Don and Kuban Cossacks. I remember how years ago my father told me stories about them. But what we have seen surpasses in terror any of his stories. Nothing deters them.

"Today my company went to the aid of several rifle regiments which were in difficulties. Only four of us came back. It was hell let loose. It is a miracle that I am alive. Some fifty Cossacks charged us in mounted formation. Our men panicked and ran. I tried to stop them, but was knocked down.

"Three times the Cossacks swept by. I could perhaps have fired, but my hands were numb. I've heard a rumor that our brigade no longer exists. Judging by my company, it may very well be true."

*By a correspondent with General Kirichenko's forces, Soviet Embassy *Information*.

Native camel corps troops form part of the garrison of a "Fighting French" fort in French Equatorial Africa.

The "Fighting French" in North Africa

A "Fighting French" officer, commanding native cavalry, salutes at a review at a Fort in French Equatorial Africa.

Coördination

Every day we read news commentaries in which, according to the often biased opinion of the writer, the success of a battle is attributed to the superiority of some one particular arm of the victor's forces. This claim might be justifiable in a few specific situations or isolated actions, but the superiority of no single arm in itself wins a war. Decisive victories most often depend upon the coördination and proper use of *all* of the arms available to the commander of the force. This coordination must be based upon the complete knowledge (by the commander and his staff) of the tactical use of each arm that is a part of his force. The rôle that each arm must play and the time of its entry into the battle must be thoroughly worked out—each with proper consideration of the capabilities and limitations of the other arms involved.

As *Pravda* so aptly comments on the training of the Russian commanders and their staffs, "Precise coördination will depend on how accurately and efficiently the staff commanders have prepared for the battle, and have checked their calculations and plans on the spot. Not only must the essential preliminaries to the actual fighting, such as information and capabilities of the hostile force, communications, supply, etc. be worked out with utmost thoroughness; but the commander, like the conductor of a huge orchestra, must see to the timely entry of each instrument so that there is not a second's delay in coördination—so that the rôles of planes, tanks, infantry, cavalry, artillery or whatever is available to the commander, may be coördinated without interruption even in the most critical moments of the fighting."

The blows of each arm are strong in themselves, but separately they do not produce the power that they could exert in skillful coördination.

How many times do we see an athletic team composed of "all stars," hastily gathered together, and after a short period of practice, pitted against another team who has played together as a unit for months. Even if man for man the all star team excels, it is inevitably defeated because the individual players have not been sufficiently trained to work as a combined force.

The commander of a large unit which contains combined forces is the creator and trainer of the coördination of all of its arms and technical equipment. These arms are his "all stars" and should be trained as a combat team and employed in the rôle for which they were organized. The time has come when, even in practice, a good broken field runner or forward passer should not be used as a center.

Cavalry Regiment—Mechanized

Our tables of organization have been carefully planned and tested in order to provide our combat corps with the necessary arms and services as an integral part of its organization.

The recently created cavalry regiment, mechanized, is the corps reconnaissance regiment. "It is," to quote from a W.D.T.C., "designed to precede the corps at distances up to 150 miles, to gather information for the corps commander, and to furnish security against surprise including the establishment for a counterreconnaissance screen." The last two missions, as well as employment in delaying action, seizing of terrain, pursuit, etc. can be performed only at the expense of reconnaissance. *The regiment is designed for employment as a unit.*"

Are our corps reconnaissance regiments being used as such? If the answer is no then we believe the situation should be given serious consideration; but, regardless of the answer to this question, our final query will be, "Should not these regiments be trained and employed by the commanders of our combat corps immediately, in the manner and for the purpose for which they were intended?"

* * *

Contributors to The CAVALRY JOURNAL are not affected by the provisions of Section I, Circular 311, War Department 1942. They may submit professional articles to The JOURNAL as heretofore.

* * *

If You Are Transferred

An item that has become a particular problem in the administrative details of publishing the JOURNAL is the large number of changes in address of our subscribers. For several weeks after the mailing of each issue of the JOURNAL, and again, after each mailing of expiration notices or bills, a great many are returned undelivered. Some are marked "Unclaimed," "Moved by official orders—no forwarding address," "Not in this organization—present address unknown."

A conservative average number of JOURNALS and bills returned each month runs close to 100. We pay the return postage at 6c per JOURNAL and 3c per letter. We check the addresses with the War Department as much as possible, but often this is inaccurate because returns are usually not received in time to be as up-to-the-minute as is necessary for our mailing purposes.

It is realized that in the confusion caused by transfer

His Time for Day Dreaming Is About Over!*

from one place to another, there are many details to be attended that appear to be of more importance than notifying The CAVALRY JOURNAL of your new address. By notifying us, however, of each change, your JOURNAL is forwarded to your newest address. And *if* you forget to notify us directly, *at least be sure to leave a forwarding address!*

Apropos the above, we have just received notification from the Post Office Department that postal laws prohibit the further inclosure of the "Change of Address" Card as an insert in the JOURNAL. This information was received just prior to going to press; therefore, it was impossible to make other arrangements for this issue. Every effort is being made, however, to devise some method, acceptable to the Post Office Department, that will facilitate our subscribers in keeping us posted of their whereabouts.

There is no objection to the use of the subscription card or your own card; so send us your change of address any way!

* * *

Speaking of transfers, if you are passing through Washington or are ordered to Washington for duty, please feel free to use the facilities of the U. S. Cavalry Association in getting oriented when you first arrive.

We do not know of any apartments or houses to rent. We do have a limited but fairly accurate amount of general information about Washington and the War Department that might be of some help to the newcomer.

The CAVALRY JOURNAL offices are at 1719 K STREET, N.W., just off Connecticut Avenue—Telephone REpublic 8073. We shall be glad to have you—and glad to be of any assistance possible.

* * *

Back from Tokio

Friends of Lt. Colonel C. Stanton Babcock, Major Dana W. Johnson, and Captain Karl T. Gould, cavalry officers formerly on duty with the U. S. Embassy in Tokio, will be glad to learn of their recent return to this country on the diplomatic exchange ship *Gripsholm*. They are the first members of the U. S. Cavalry Association who have come home after having been in Axis hands. Colonel Babcock, now on duty in Washington, has promised us an interesting article for the November-December issue. Don't miss it!

*Courtesy, *The Evening Star* (Washington).

COMMANDOS

*By Lieutenant Colonel R. V. Boyle, British Army**

COMMANDOS are specialized troops, but there are others like them. Landing operations have for many years been practiced by that magnificent body of men, the United States Marine Corps, *and the difference between them is really one of degree. Commandos have specialized in "hit and run" raids, which are only a very small part of a combined operation; whereas the Marine Corps have aimed more at invasion.*

Who and what are Commandos? After Dunkirk and the collapse of France, Great Britain did not intend to sit down passively and wait. At the same time, she clearly was not in a position to invade. So it was decided that the Germans must be harried by raids; in fact the task was to "butcher and bolt."

In the South African War the Boers raised "Commandos" with just this object, and they were so gallant and successful that "Commandos" became a name associated with bravery and success. When it was decided that such a force should be formed, volunteers were called from regiments of the British Army. Though there are a few Canadians and Australians, the personnel are largely British with more than 99 per cent from England, Scotland, Wales and North Ireland. From these volunteers the Commanding Officers select the men that they want, each Commando forming very much of a family.

There is a central headquarters which coördinates the policy and training etc. of each unit but without in any way interfering with the Commanding Officer of the Commando. Each Commando is free to train in whatever it considers the best way, subject only to a broad principle, and is judged not on methods but on results.

Commandos are specially trained to carry out amphibious raiding operations. As an Empire the British are exceptionally well placed for these, since operations can be carried out along all the Northern Coast of Europe, in the Mediterranean or further afield if desired. These raids do get a lot of valuable information, and make possible a great deal of damage to important installations, thereby forcing the Germans to keep troops there who might otherwise be used on other fronts.

In addition, they certainly make the Germans jumpy. How would a person feel if there was an outbreak of robbery with violence in the area in which he lived and his house was one of the houses broken into? He would feel jumpy and nervous for weeks after until, in fact, the crimes ceased in that area. Then just as he began to feel safe the outbreak recurred. That is what the German troops feel like. Never knowing where and when they will be attacked; sentries at night always looking over their shoulders in case they are being stalked from behind; jumping at every rustle of the bushes. It can be assumed that that does not assist their morale.

For example, one night a party of Germans were riding their bicycles on their way to take over duty in one of their concrete defense posts. They were laughing and talking as they freewheeled down a hill with a bend in it. As they rounded that bend, a burst of fire from a tommy gun greeted them. Not one of them finished his ride. Imagine the feelings of other German bicycle patrols and reliefs when that story spread round. And such incidents certainly do spread round.

Regarding the training required for the officers and men who take part in these operations, first of all, they have to be tough—really tough. In defining the word tough the Oxford Dictionary gives it two rather contradictory interpretations. One is "ruffianly, turbulent and criminal." That is not what is required of Commandos. The other interpretation is "tenacious, able to endure hardship, hardy, unyielding, stubborn." As an example of tenacity, as one of the men in the party who attacked the bicycle patrol was getting back into his landing craft, his rifle slipped and fell into about 8 feet of water. Although they were under fire from the enemy machine gun posts on the coast, he jumped overboard and tried to find it. Groping for a rifle at the bottom of the sea on a pitch dark night is a slow business, so after a few minutes as the enemy's fire was becoming more accurate, the officer caught him by the collar as he came up for air and pulled him back into the boat. Instead of being grateful the man was furious that he was not allowed to try again. It was then discovered that during his time in the water, he had been shot in the elbow.

Commandos must be able to march "at speed." Speed marching, as the Commandos call it, is seven miles per hour over long distances. On one occasion, for example, a Commando was ordered to move to a town 120 miles away. The Military Transportation authorities rang up and asked what train accommodation would be required. None, replied the Commanding Officer. That afternoon the men were told the time and place of parade for the next day. It was a town 30 miles away. No further orders were given. Next morning every man was on parade as ordered and they then marched the remaining 90 miles to their destination.

Commandos must also be hardy. Each man has to carry all that he requires, and they sleep where they stop, so there is no hope of blankets or luxuries of that sort. In the same way each man carries his own food, but they will often have to be out for far longer periods than their food supply will cover; so they have to learn to fend for themselves. For that reason they are taught how to kill, skin, cut up and cook animals which they can catch, for which they have only a knife and a box of matches.

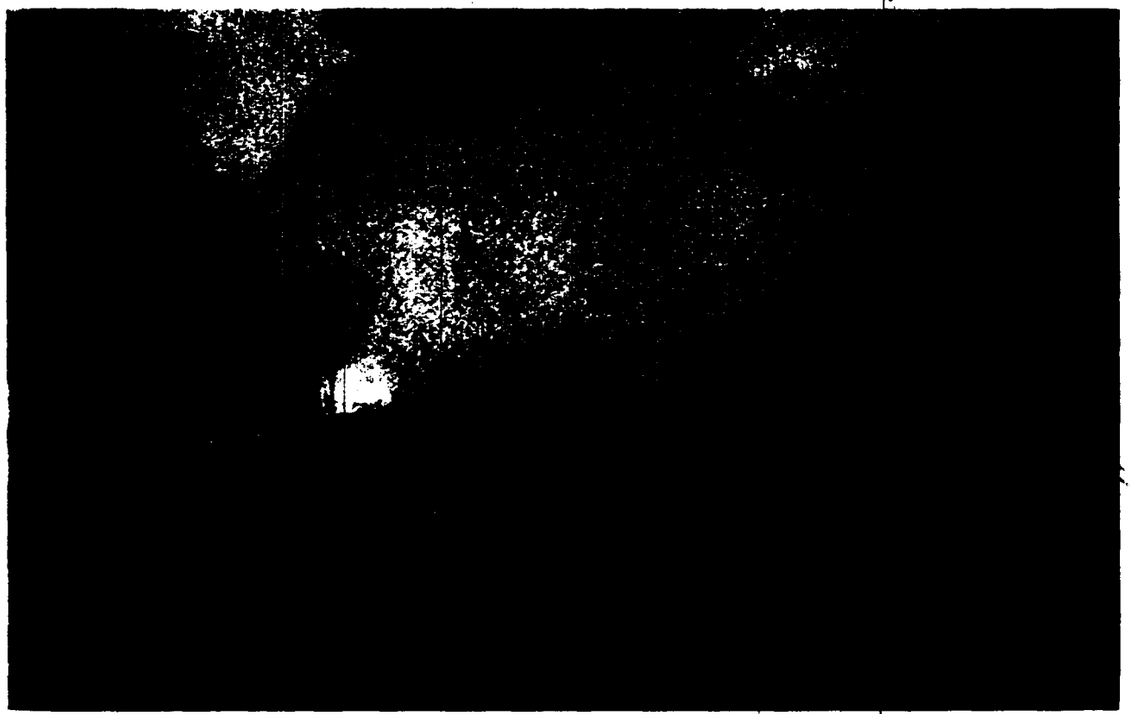
This teaching proved its worth in Libya. After the Commandos in the Middle East made their daring raid on Rommel's Headquarters, they were hunted relentlessly by the Germans. Eventually, after inflicting casualties on the hunters, they decided to "fade away," so they split up into pairs. The Senior Officer of the party and a sergeant got cut off from their rendezvous and took to the hills. They lived there for 41 days on the food they carried, berries, and a goat. The goat had got lost from its herd but together they stalked and caught it, killed, skinned, cooked and ate it. Theoretically that is quite easy, but how many trained soldiers would have any idea of how even to start setting about it? Yet it was vital to them that not an ounce of meat should be wasted. As no other goats saw fit to lose their way, they were getting a bit peckish after 41 days so decided to go down to the plain and try and steal some food. They came down one morning and crept up to a camp when, to their great relief, they found the British had advanced, pushed back the Germans, and the camp was in British hands.

Then Commandos must be accustomed to the sea. They spend long periods on board ship, get to know the ships and the crews of the landing craft, so that they shall all work as one team. They must be able to help with the craft if it should ever become necessary, and know and understand naval problems and difficulties. Commandos may also be called on to operate under almost any conditions. They may have to work and fight in snow, in mountains, in deserts, in jungles or swamps, on beaches, in streets, or on more normal terrain.

All of this means that Commandos must be expert in all types of warfare, and it means many months of hard, hard training, for they are not limited to the coast line of Europe; and though Commandos are in the Middle East as well, there are unfortunately many other parts of the world which are now in enemy hands.

Equipment, explosives, etc., are specially designed to be small, compact and very light. Clearly the normal type of army stretcher is not a handy article. So something was designed which was light, which could fold up and be easy to carry, which could be used for lowering and raising wounded up or down a ship's side or a cliff, and which was practicable in the confined spaces of street fighting. Another example of equipment was the normal bulky British respirator, so a small, light and equally effective one was produced.

Having Commandos is not just a matter of collecting



British Commandos during a raid on the island of Maaloy, off the Norwegian coast, in which the entire German garrison were either killed or taken prisoner.

*Formerly with Headquarters, British Amphibious Warfare, London.

some really good officers and men together but a matter that requires a long and strenuous period of equipping and training before they are ready to undertake an operation. Again, an operation cannot be put on at a moment's notice but requires the most careful planning down to the minutest detail. Nothing can ever be left to chance. First of all, a mass of information is collected and sifted—the area of the landing; the slope and type of beach, the current and reefs, sand-banks and channels, the factories, houses, gun emplacements, enemy troop billets, etc.

Then there is the matter of protection by fighter aircraft. Suppose a landing at night is to be made. Obviously on the return trip the German air force would try to bomb the party, so they must have fighter protection. That means that by the time the German air attack is likely to start the boats must be within a certain distance of their base. From that, the time at which they must leave the enemy coast and hence the time at which they must land can be calculated. But is the tide right at that hour? It is no good trying to reëmbark on a falling tide because when the troops enter the boat, it will ground, so a date must be chosen when the tide is right at the hour wanted.

If the enemy is to be taken by surprise, the approach obviously cannot be made in moonlight. So a date must be found when the moon and the tide are both right at the time wanted; and *then* the weather may be unsuitable for a landing operation. That of course limits enormously the number of raids that can be carried out each month. There are times when Commandos ring the changes and land in moonlight or even by daylight as was done in the raid on the Norwegian coast at Vaagsot. In war the enemy must always be kept guessing and the surprise of the raid proved how well this had succeeded.

In an earlier raid on the Norwegian coast Commandos were anxious to collect the Military Commander of the area. Having landed at night and cut the communications before the Germans knew they had even arrived, a party of men previously assigned to this task took a car and drove to the house. They arrived about 8:15 AM, liquidated the guard in complete silence and then walked to the front door and rang the

Their mission completed, with all Germans either dead or bagged, successful Commandos return from their raids on Vaasgo and Maaloy.

A Commando raid on Vaasgo off the Norwegian coast, in coöperation with a Bomber Command.

bell. It was opened by the servant who found himself facing an armory of weapons. With a revolver in the small of his back, he was made to lead them to the door of the German officer's study where he was working. With delightful irony, they knocked on his door. Without looking up, he called "come in" and continued writing. When he realized that more than one person had come in, he looked up to find himself covered from every angle. The officer in charge of the party told me that the look of amazement on that German's face was better than any theater. They removed him and his papers to England without anyone else in the house even knowing that he had gone.

To show how valuable is surprise, I would point to the raid of Rommel's rear headquarters in Libya. This was about 40 miles behind the German lines. After being landed, the party made their way to near the headquarters. Again the guards at the front were despatched silently—the special knife carried by all ranks is a great help in this sort of work—and then they walked unobserved into the building. Straight in front of them were the stairs and on the right were two rooms leading out of each other. The further room was the one used by General Rommel when he was at rear headquarters.

The party actually attacking the office was led by Lieutenant Colonel Keyes, the 24-year-old son of Admiral of the Fleet Sir Roger Keyes of Zeebrugge fame. Immediately they rushed into the first room where two German staff officers were working. They were taken completely by surprise and were shot before they could even get up from their desks. Without pausing, Colonel Keyes led his men into the further room, but the sound of the shots had roused the occupants and as Keyes burst in he was met by a burst of revolver shots. At the same moment, one of the party shot out the light. Clearly, General Rommel was not there, and his room was being used by other staff officers. Quickly the party slammed the door again. They could hear frightened breathing inside, so standing well back they opened the door a crack and lobbed in a few hand grenades just to keep them quiet. It certainly did, as they had no more trouble from that room.

By now, however, men had started coming to the staircase from the rooms upstairs, but a couple of men had been left to watch that and as the Germans started to crowd down the stairs, they were mown down with a tommy gun. But men from the outside were now running to the front door, so it was time for the party to beat a retreat. Shooting their way out, all but two got away, eluded their pursuers and rejoined the main body some miles away who, meanwhile, had been engaged on other objectives.

The Commandos are grand men doing a grand job, but it should be emphasized that it has meant months of tremendous work, thought and planning to produce the very high standard which is so absolutely essential. When Winston Churchill became Prime Minister, he offered "blood, toil, tears and sweat." The Commandos have experienced all these in full measure. Not only are they eager and willing for more, but they are proud to have the opportunity to strike a blow at the enemy "wherever and whenever he can be met."

Their mission completed, with all Germans either dead or bagged, successful Commandos return from their raids on Vaasgo and Maaloy.

Britain Trains Pack Horses for the War

GREAT BRITAIN has found from her experiences in Norway and Burma that over much terrain and under many conditions the horse is not only desirable but necessary.

After his withdrawal in Burma, General Alexander said that there were only two main roads in Burma on which a mechanized army could be used. "I did my best to replace mechanization by bullock carts," he said. "This made the army considerably more mobile but meant new training for troops brought up on mechanized equipment, however, it was unavoidable."

In Britain's new army now being trained for an offensive, horses are being used for transport work and for operations in terrain too rugged for anything on wheels.

Amid the hills and forests of England's Northern Command, cavalry trained officers and men of the Pack Transport Company put horses through a series of rigorous invasion exercises. Equipment is carried pannier style, with one pack on each side of the horse's back; and with each horse carrying 320 pounds, the company can move about twenty-seven tons. Practice includes loading onto barges, passing along narrow rims of precipices, and following steep and narrow mountain trails.

Besides carrying supplies and ammunition for the infantry, the self-sufficient Pack Transport Company totes its own field kitchen, forges, ambulance and veterinary sections. This unit might play a key part in the invasion of mountainous country such as is found in Norway. Significantly, the company is kept at full strength and is ready for instant action at all times.

Cavalry Commandos

By Major Spelman Downer, 8th Cavalry

THE most successful series of aggressive land and sea operations of the allies so far in this war have been the black-faced Commando raids developed by the British. Ferried to predesignated landing points these task forces have repeatedly struck surprise blows and disappeared into the black waters of the ocean leaving untold death and destruction behind. If the cardinal element of surprise can be attained by these marine shock troops through a swift and silent water approach to their objective, certainly there is a cavalry counterpart that the horse can achieve by land.

The defensive positions of army troops for combat in this war are characterized by the organization of strong-points and great depth. Offensive operations are likewise characterized by overwhelming concentrations of fire-powerful mechanized and highly mobile spearhead forces spotily supported in great depth.

From these characteristics of fast, open, land warfare it becomes at once apparent that the crucial factors in all operations are the maintenance of supply and control functions. These weak points, in turn, suggest a number of reasons for organizing and training Cavalry Commandos.

Why Cavalry Commandos

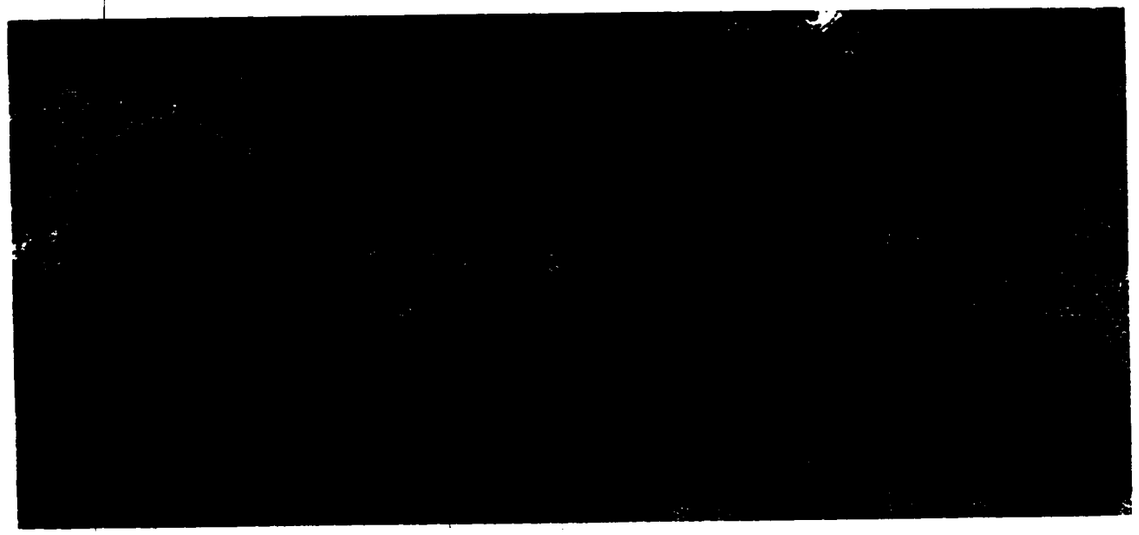
Movements at night, in small groups, through isolated areas, avoiding roads and towns, are inherent with any cavalry operations as proposed. Mounted patrols habitually travel in such fashion. The weather has much to do with large scale operations of troops, particularly mechanized forces. Rain, fog, wind, or cold does not stop a small mounted group of determined individuals.

Commando Missions

Air reconnaissance plus the necessities of control indicate within reasonable limits command post locations of forces in contact with one another. Close observation only will supply actual identity, local security measures being taken, routes to and from higher and subordinate headquarters, and the lay of the land essential to formulating an effective plan of capture. Here is a nerve center whose destruction or operation for our own benefit would offer consternation to the enemy in enormous proportion to the small group of commandos necessary for the task.

On the basis of observation, prudence or good policy might dictate the equally effective scheme of disrupting control by intercepting messengers, cutting and removing or destroying large sections of field telephone or telegraph lines, demolishing critical bridges, or otherwise tampering with communications. Messages need not be destroyed. If of a routine nature, a substituted messenger might make the delivery, with an apparently legitimate excuse for gathering further information of value. Important messages might be cleverly rewritten to prescribe an uncontemplated bit of chaos.

The shadowing of supply routes offers a fruitful field



The cavalry commandos halt only long enough to feed themselves and graze their mounts.

for frustrating enemy efforts. While capture of convoys might only be possible in rare instances, opportunities for misdirecting critical commodities and for cluttering up roads with stalled, or overturned vehicles should frequently present themselves.

Commando operations along G-2 lines are a logical development of objectives just mentioned. Given radio, pigeon, or even mounted messenger communication facilities the small commando group could carry out intelligence missions with dispatch. Information gathered incident to any operation, if indicative of action not capable of immediate frustration by disruptive commando tactics, should be sent back even at the expense of disclosing the group's location and abandonment of initially assigned missions.

A highly mobile pool of capable individuals to meet paratroop onslaughts appears to be another possible use for commandos. Given an adequate warning system, by striking hard, fast, and intelligently, a difficult situation might quickly be mopped up. Time is of the essence in such a task. Specially trained and equipped men capable of hair-trigger thought and action could strike in a minimum of time, catching parachutists in the air or at least before automatic and heavy weapons or reinforcements could be put into use. It is conceivable that the solution of such an assignment might develop into a quick annihilation of the air-borne vanguard, assumption of their functions by our own commandos, and through fake messages or in the natural course of events the capture of large numbers of following troops.

Composition of Commando Groups
Methods of Operation

While it does not appear wise to generalize too much on such a topic, due to the necessary consideration of varying specific factors in any given problem up for solution, it is believed that certain principles will be applicable in most cases.

Consideration of the mission to be accomplished is of primary concern for several significant reasons. Essentially, specific mission assignments are desirable not only as a matter of good general practice but specifically as a means of necessary control and coördination in the handling of hazardous tasks. Individual missions should be assigned, in addition, because such a factor is imperative to a decision on the composition of the group selected for the particular job at hand.

The size of a group could be left pretty much to good common sense; applied to an analysis of the situation in general. The term "small group," as heretofore used in connection with offensive operations, can be more concretely defined as not less than two and probably never more than twenty men.

An example of a patrol sent out to destroy a bottleneck bridge along an enemy supply route serves also to introduce the qualifications of individual members composing commando groups. For such a task a skillful and daring leader is of course a prime requisite. Members of the team in general should be so well schooled in the type mission to be performed and the means to its accomplishment as to furnish a flexible source of manpower for the specific assignments involved. For accurate land navigation one man would be required who was particularly skilled in the reading of maps, use of the compass, and practical measurement of distances by time and gait factors. For the accomplishment of the specific mission assigned, one man with a knowledge of characteristics of explosives and adept at placing, and exploding charges with maximum efficiency would complete the experts required. For leading packed demolition equipment, carrying back such messages as might be required, for man-handling enemy bridge guards, assisting in placing explosives, and alertly holding horses in concealment for a quick get-away; a group of five more men would complete the squad of eight-jack of all trades, hand picked for the specific job.

From the above I trust it appears that team-trained specialists would constitute the core of any commando group. In addition to those already mentioned, men with special skill in such subjects as meteorology, radio, visual signal communications, observation, languages, motors, and weapons should be available.

Movement across country and principally at night should be a basic principle of operation, tieing in very closely with the need for specially trained land navigators and the advantages of the man on horseback for such work. From this principle a related and none-the-less significant point is the fact that such preying parties would have to live off the country—a supply line other than through the air would be both undesirable and impracticable.

From these several observations it might well be stated that the composition of commando groups emphasizes quality rather than quantity and is predicated on balanced teams containing a flexible pool of specialists trained for particular tasks. Methods of operation contemplate comprehensive planning, stealth, and the surprise striking of lightening blows.

Individual Qualifications of Men

Intelligence is defined essentially as the ability to learn quickly, to profit from experience, and to adapt oneself to any situation. When time for training is limited and life or death may hinge on an instantaneously required decision there can be no compromise with the basic prerequisite that commandos be intelligent men. The particular qualities desired have no direct relation to formal education—native cunning and ingenuity cannot be replaced by an understanding of and ability to apply the technique of acquiring knowledge. A combination of these two qualities in a man is what we are looking for.

Of the characteristic modes of behavior making up a man's personality the one most desired in a commando would be an acute sense of personal responsibility. The type of man constantly on the lookout for the welfare

of others and with a conscience that hounds him unmercifully until an obligation imposed by order is carried out to the letter is what we are after. Of the other desirable qualities such as initiative, guts, and resourcefulness, perhaps the most noteworthy is that dominating tendency which shows apparent authority in voice and demeanor and impells action from others.

If combat is a young man's game there can be no question but what commados should be the physically favored few. A good sound physique is not enough, however. Athletic prowess and conditioning are requisites just as essential. To keep mind and body active for extended periods of time, under the most adverse of circumstances, requires an ironclad constitution. As in the consideration of personality there is here much opportunity for acquiring athletic agility and physical toughness through proper training. The medical department and a selection of athletic events can be effectively turned to the task of determining basic prerequisites.

Training Commando Teams

With raw material possessing the necessary basic qualifications the task of turning out commando teams is merely introduced. Before any operations could be undertaken a thorough course of intensive training is not only logical but an essential second step. For such work training might well be subdivided into three classes: basic, to include all elementary individual matters of common interest inherent in the type of operation contemplated; advanced individual, to include technical training of general interest and the development of specialists; and practice operations, for the actual trial, testing, and final polishing of typical techniques.

Basic training takes us back for a moment to the matter of physical conditioning. Certainly an item of individual self interest, it becomes particularly significant when the vigorous teamwork of commando operations is considered. Self defense, mental alertness, and physical stamina are the points in a conditioning program requiring particular attention. Modes of personal combat which emphasize all these points include boxing, wrestling, and jiu jitsu. Marching and particularly climbing, interspersed with calisthenics and obstacle course exercises are all suited to produce the strength and skill needed.

A high standard of horsemanship should of course be insisted upon among any group of mounted soldiers. Even more essential, however, for the particular tasks in mind, would be an intimate working knowledge of field horsemastership. Feeding, grooming, shoeing, treatment of common ailments, and other similar subjects should be covered with a view towards having all men understand the essentials of daily horse care, and competent to meet emergencies that might well mean the difference between success or failure. Training in the use and care of animals should be so thorough as to make daily attention a pleasing habit resulting from a profound appreciation of the horse and his characteristics.

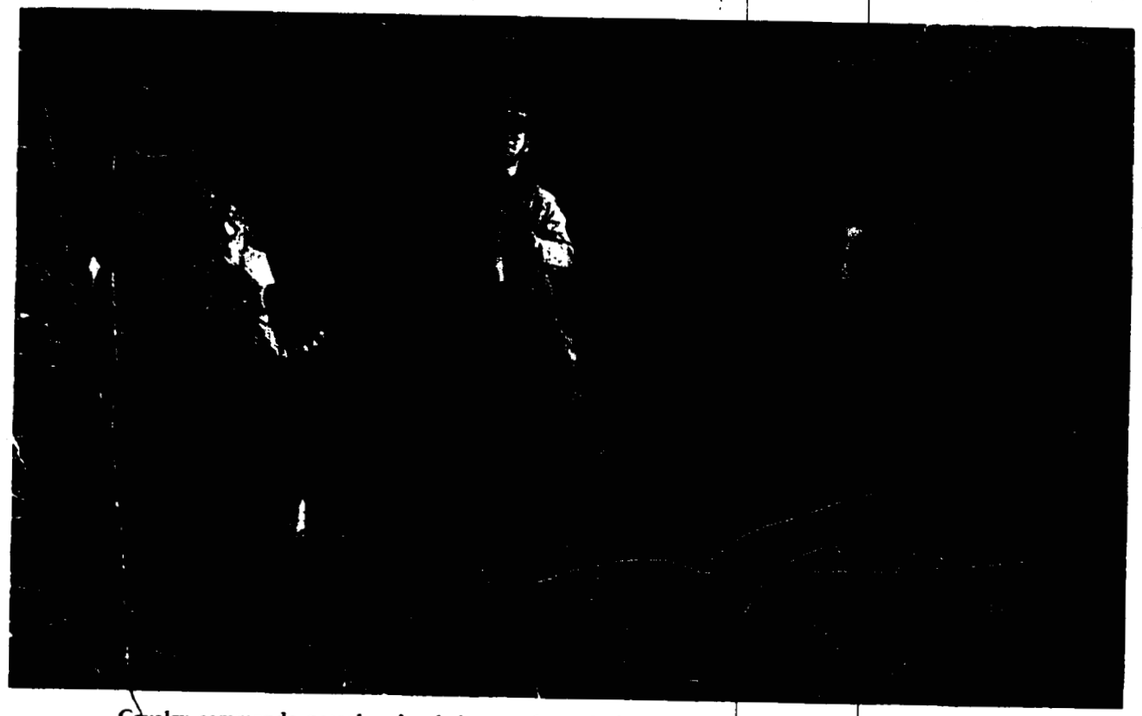
To sustain a horse on the countryside is one problem, but to keep human beings alive and healthy under similar circumstances is another. Self-sufficiency is something that can be mastered only by actual practice. To make a shot at it, however, training in such matters as personal hygiene and the procurement and preparation of food are essential. The significant facts are few. They should receive repeated treatment and the degree of their retention by trainees should be tested at every opportunity.

Mention has been made before of the need for specially trained land navigators. While their services should normally be expected, a broader general knowledge of such things as the use of the compass, reading maps, camouflage, and concealment, all of which might be conveniently grouped under the heading of scouting and patrolling, should be included in the basic commando curriculum. The technique of a traveling commando team is nothing more nor less than a stealthily operating mounted patrol. As individual messengers, in the event of becoming lost, or due to the necessity of scattering to avoid capture, such knowledge might easily spell the difference between a safe return to headquarters and capture.

Through all phases of this basic training there should be spun the thread of individual personal responsibility and every opportunity taken to weave the thread into the whole cloth of teamwork. Considering human beings as they are, no reasonable man can expect universal perfection in even the simple basic subjects so far treated. It is believed, however, that the inculcation of the qualities just mentioned will make up for any individual shortcomings of a group of men imbued with the spirit of "one for all, and all for one." Discipline and *esprit de corps* are matters for little concern in such an atmosphere.

Having climbed the gentle basic slope we consider now the advanced specialized training. In general, it is contemplated that specialists to be trained will be selected from men already well advanced in their particular field. Training here frequently should take on a negative or destructive character in that further effort should be devoted to ways and means of crippling or disabling equipment or devices being used by the enemy.

For instance, an advanced study of mechanics should include constructive work of both a theoretical and practical nature; but in addition, the quickest and easiest means of disabling units such as the universally used motor vehicle. Similarly, a study of communications should include such positive techniques as writing messages and the use of codes; and a thorough mastery of such means as the telephone, radio, messengers, flags, and pigeons. Negatively, devious ways and means



Cavalry commando patrol make their way through dense woods at night by compass bearing.

of interrupting, misdirecting and otherwise destroying or hampering enemy communications should be thoroughly considered.

Training in the use or the misuse of weapons has not so far been mentioned. It would be well to insist on skill in the use of individual firearms during the basic course. There should be included instruction in the use of the knife for other than opening cans. The study of crew operated guns and ways and means of destroying all types of enemy weapons might well be reserved for the advanced course. Again, the destructive features of this training should be emphasized.

Next to be considered is Advanced General Training. It has been tersely put by more than one irritated intelligence officer that "Soldiers see, but they don't observe." Observation in the sense that it contemplates a significant apprehension of the object or scene caught by the eye is but one phase of essential advanced training in military intelligence. The ability to keep essentials in mind, to seek out, through observation or questioning, and to sift, arrange and evaluate miscellaneous information should be engrained into all.

The desirable habits of keeping informed on what is going on and of turning loose natural inquisitiveness are to be cultivated in all phases of training. Such habits can be turned into military intelligence channels at the proper time and the battle of applying such theoretical knowledge as may be required to the practical everyday needs of commando operations is half won.

Proper training in psychology can make a valuable weapon for the individual commando. Everyone knows the usual result when a man with a dominating personality accosts another. One becomes the leader and the other a follower, consciously or unconsciously; on the spot. This domination may be evident from physical vigor, force of manner, or apparent knowledge and authority. To the disciplined soldier, almost universally and without question, a forceful statement or clear cut order means only one thing—action.

Conclusion

Turning now to the final phase of training we consider somewhat summarily the testing and practice essential to turning out the rarin'-to-go cavalry commando. Here the knowledge and skill acquired by the individual should be blended into a formidable team, fitted out solely for the particular job contemplated.

The use of forces thus selected, trained, tested, and equipped has a definite place in modern modes of all-out warfare. Some of the specific tasks falling to their specialized skill, both offensive and defensive, have been mentioned. Many others will fill the minds of the imaginative.

Who will deny that the critical features of open, mobile warfare are control, through communications, and the supply of those commodities essential to armed conflict? I believe the cavalry commando is the most potent means of exploiting these inherent weaknesses.

What Is Air Superiority?

By Lieutenant John R. Gillingham, Air Corps

SINCE the dawn of human warfare, military-minded men have been inclined to point to one single factor that is the reason for success in combat. Undoubtedly, after the Battle of Marathon, the Greeks said that the phalanx was the single measure of victory. Perhaps, Hannibal's supporters acclaimed the battle elephant. English archers pointed to the superiority of their longbow over the French crossbow as the means of triumph at Crecy. Napoleon said that "God is on the side of the heaviest artillery."

In this war, there is little doubt that the greatest single element of victory is Air Superiority. How many times have you picked up your newspaper or magazine, or listened to the radio, and learned that one side had "Air Superiority" over the other in such-and-such an engagement?

Yet this one element of modern war, the thing that, by common consent, appears to make for victory or defeat of itself, is actually the most generally misunderstood part of the whole war.

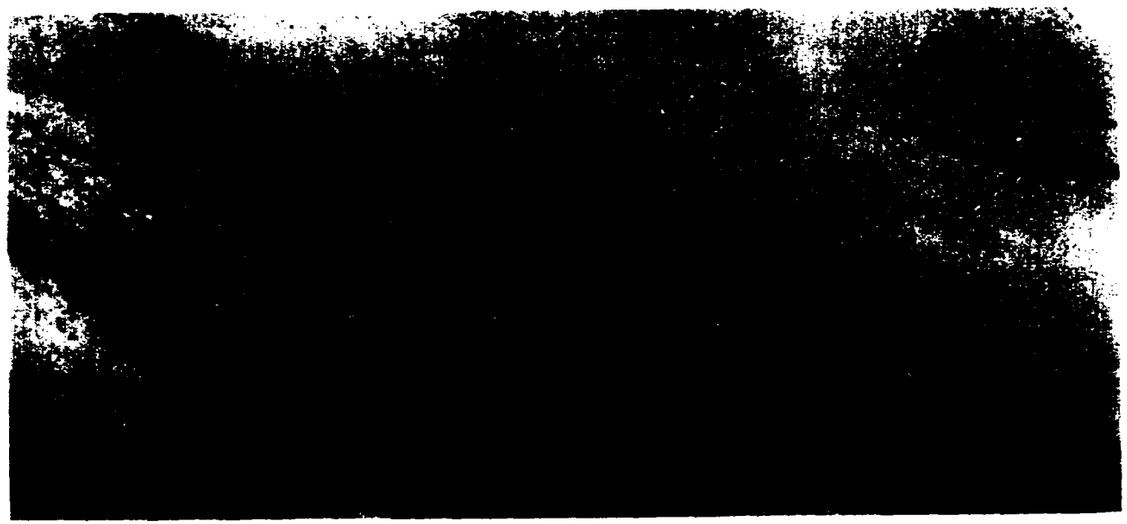
How do you define "Air Superiority"? How do you get it, and what does it really mean?

Actually, there appears to be no cut-and-dried way to define this somewhat abstract but vitally important factor of World War II. It cannot be described in concrete terms any more than the idea of virtue. Air Superiority is partly a concept. As many aspects of the present war are, it is tied in with other subjects such as psychology and geopolitics.

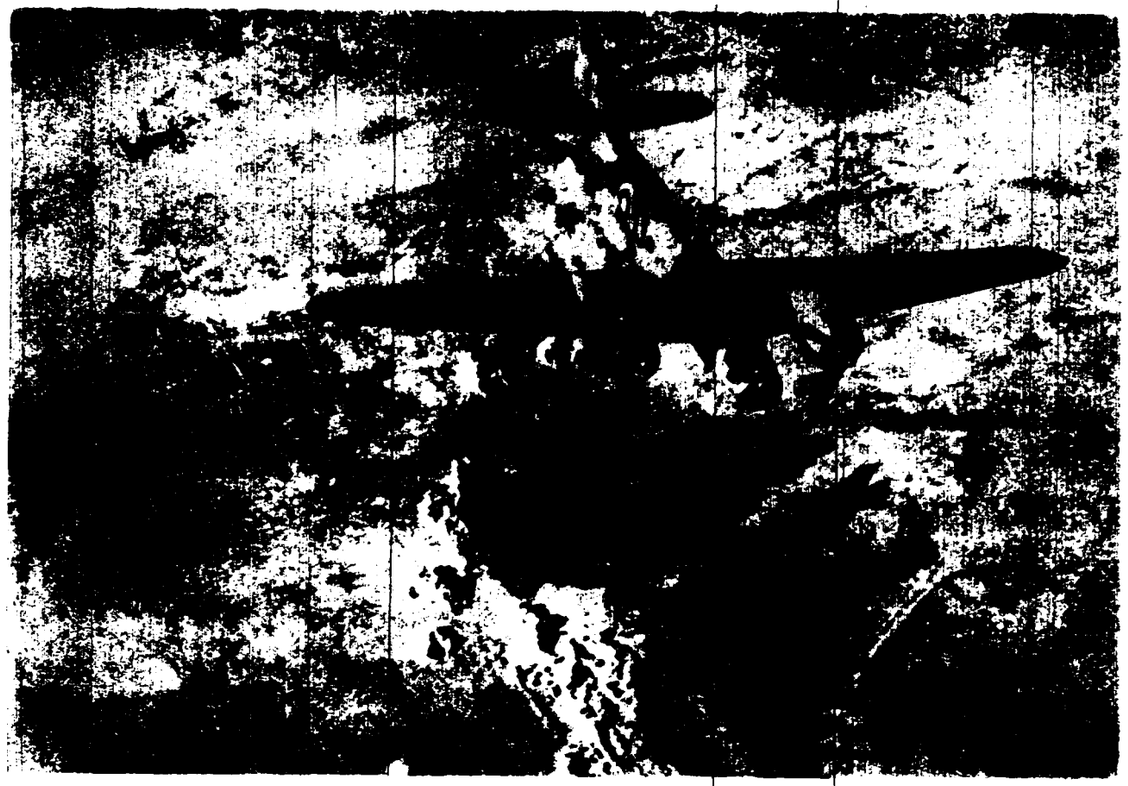
From what we have learned about the air war so far, however, it is possible to make some more or less definite statements about Air Superiority, and attempt to formulate a few basic principles concerning it; but it is necessary to bear in mind that the vast and rapid changes that are now taking place in this three-dimensional, global war may change certain of our ideas overnight. All that we can do is to draw our conclusions from what we know up to now, and then do a little interpretating. In other words, our dossier on Air Superiority should be like a loose-leaf folder, where pages may be taken out or added as new facts come into the picture.

One way to define "Air Superiority" (you won't find it in the dictionary) is to say that its meaning is obvious from those two words. A better way to describe it is to see how it appears to work.

In the first place, we must narrow "Air Superiority" down to a time and a place. We cannot honestly speak of "World Air Superiority" or even "Pacific Air Superiority." Not yet, anyway. We can say that the American and British air forces now have it over the western coast of Northern France. The Nazis had general Air Superiority over Holland, Belgium, and France during the invasion of May-June, 1940. At the same time, the British R.A.F. had it locally over Dunkirk for a few days—long enough to get the bulk of the B.E.F. out of Europe in the face of the full fury of the German *Wehrmacht*.



"On their way."



The Battle in the Western Desert. Bomber of the South American Air Force draws away after dropping a stick of bombs accurately upon enemy transport.

In this example of a war within a war, the R.A.F. demonstrated, for the first time, what could be accomplished by local air domination. This great lesson was extended a little later as the badly outnumbered R.A.F. outfought the entire *Luftwaffe* in the aerial Battle of Britain and sent the Nazi air giant back to his continental lair to lick his gaping wounds.

It is obvious, then, that Air Superiority is not merely a matter of numbers. Quality of men and airplanes, suitability of air weapons, and leadership have a lot to do with it, too.

For all its indefinite quality, however, there is no mistaking the possession of Air Superiority in battle. The commander holding this advantage can move his troops at will and put them where he wants. He can bomb and strafe the enemy's troops in the field, smash the enemy's supplies and war factories far in the rear, and reinforce himself at will.

On the other hand, the commander without Air Superiority must move his troops in blacked-out darkness, slowly and under conditions of utmost confusion. Every advantage of motorized transport is lost. Trucks and wagons must be placed, not where they are most-readily accessible, but in creek beds and thickets and under trees, where they will not be spotted by the enemy's all-seeing aerial camera. The question of where to place gun positions is governed, not so much by where they can best fire upon the enemy, but where they will be hidden away. Supplies must come over circuitous routes, so as not to create tell-tale dust marks or trails. And after they arrive at their destination, the already tired troops must immediately put up camouflage, often a long and tedious process.

The commander without Aerial Superiority has little hope of gaining reinforcements, over land or sea, in the face of murderous enemy bombers which can range hundreds of miles behind his lines. Nor has he much hope of some strategical *tour de force* that might change the situation, no matter how brilliant a military genius he may be. The enemy can spot his every move, and shift troops to crush any offensive before it is even started. General MacArthur's brilliant maneuver at Bataan gains even more in sheer genius when we consider the handicap of operating without air power.

The commander who lacks command of the air is in the desperate position of a poker player who is staking his money on a hand which his opponent has already seen. In every major military disaster which the Allies

have suffered, the cry has invariably been for "more planes." All of which brings up another question: why can't more planes be sent to the scene of action?

So far in this war, there is no case on record where Air Superiority has changed hands during the course of a single extended engagement. In other words, the side that starts a battle with this advantage has kept it right through to the end. Despite what the commentators may say about "wresting Air Superiority" from the enemy, there is little concrete proof that it has ever been done, in the course of any one battle.

The Japanese gained aerial dominance at the start of their attack on the Philippines by bombing our aircraft at Clark and Nichols Fields. They kept it right through to the surrenders at Bataan and Corregidor. The same thing happened at Hong Kong, Singapore, Java, and Sumatra. Never once was their air dominance even threatened. As a result, they were able to attain their objectives almost unchecked.

Events of this war have shown that the weaker side in the air has little choice between continuing the unequal fight until its own air power is inevitably wiped out completely, or breaking off the engagement with the hope of finding more favorable conditions at a later time and place. This was the situation at Java, for example, where our Flying Fortresses found themselves without fighter support. By wisely leaving the scene of action for Australia they were able to exert a major influence in the later action whereby the Japs were stalled in their southward advance. Had the Flying Fortresses elected to remain in the lop-sided Java fight, they would have faced inevitable and total destruction without being powerful enough to affect materially the Japanese conquest of the island, anyway.

It is extremely difficult to reinforce an inferior air force during the course of battle. Unless such reinforcement is big enough to combine with what is already there and be superior to the enemy at one stroke, it stands the risk of being defeated in detail. Driblets of air reinforcements have often proved to be useless because the enemy can get to them and destroy them before they are joined with the main body.

With the long and hard-hitting arm of air supremacy, a commander can both ward off the enemy's attempts at reinforcement and pummel him at short range. If this applies to reinforcements by air or land, it is doubly important when they must be brought overseas. The sinking of the *Repulse* and the *Prince of Wales* sealed the doom of the Philippines, Hong Kong, and Singapore, all at once. Without the airplanes to protect the warships which protect the freighters, any convoy is faced with disaster.

Although, so far in this war, the Allied Nations have been forced to operate without aerial supremacy in the zone of action, and as a consequence have taken a good many lickings, it is a most heartening sign that we are now turning the tide. It is the avowed purpose of the Army Air Forces to provide this incalculable advantage every time our troops take to the field from now on.

An Axis encampment near El Adem is seen receiving accurate bombing from the South African Air Force. Prior to its recapture by Imperial Forces.

Air Superiority is a cumulative thing. Whoever possesses it continues to have it in ever-increasing measure, together with all the prerogatives that go along with it. The gaining of air dominance appears to be a process of obtaining it at a certain place, and enlarging its scope. After attaining Air Supremacy over England, for example, the R.A.F. (and the A.A.F.) are widening their sphere. Already, as we know, the Allies have gained air dominance over the western coast of Northern France. The recent super-commando raid at Dieppe proved that, and it was further confirmed by the surprisingly small Nazi air opposition which the American heavy bombers found in their raid the following day.

There is no question that this range of action will be extended as rapidly and completely as possible. The great bombings of Cologne, Essen, Bremen, and other major German industrial cities and centers of transportation indicate not only that our air strength is gaining, but also that the sources of continuing Nazi air strength are being diminished for the future. We are whittling down Nazi air strength, therefore, in two ways: first, by destroying it in action, and secondly, by cutting down their means of replacing airplane losses.

On the other hand, it is extremely difficult for our enemies to strike at the heart of our sources of industry and supply. So far (and let us all knock wood!) our great aviation industry, in Southern California, in Detroit, and elsewhere, has not felt the paralyzing power of aerial bombardment. This ability to produce materials of air war without hindrance will prove, in the long run, to be a greater advantage than the much-discussed handicap of transportation.

If all this sounds simple, and appears to be a sort of automatic process, it certainly is not. It requires a tremendous concept of air war. It requires a complete understanding of every principle of strategy, with special emphasis on *mass* and *mobility*. If the rising tide of Allied air power is to become a flood which will engulf the Axis, its progress must be planned with extreme care, to ensure that our air strength will be superior to that of the enemy's at every time and place of action.

When we have attained air dominance, we will be able to take the initiative whenever and wherever we want it. We will be able to do to the Japs in the Pacific what they have done to us. They, not us, will know the agonizing futility of being attacked by superior force at point after point, with no means of bringing reserves of men or materials into action. They will understand what it means to be isolated in detail, to fight under grave handicaps, while our forces can mass and strike at will.

That time may not be here yet, but it will come. Then will be strategy on the truly grand scale, worldwide and swift-moving beyond the wildest dreams of "Stonewall" Jackson or Bonaparte.

The mere fact that this air dominance is in sight is a tribute to the wisdom and creative leadership of the R.A.F. and our own air forces. And let us all thank our lucky stars that the Nazis themselves, for all their boasting, never understood the real function of air power until too late. Despite the sensational victories in Poland, Norway, the Lowlands, France, and Crete, the fact remains that the Axis nations failed to take their primary objective, which was the British Isles. Every month of waning German air power makes the conquest of England more unlikely. Every month that airplanes are built in America and landed in the huge "nonsinkable aircraft carrier" that England has become, tips the scale ever more in our favor.

America and Britain, together, are determined to exploit to the fullest the power of air superiority. We know all too well what it is like to be on the receiving end. From now on, we are going to "dish it out," more thoroughly than the Nazis ever succeeded in doing. We are forging the greatest weapon of all time. And what's more, *we* know how to use it!

★ ★ ★ ★

It is the combination of these three factors — motorization as method of transport, mechanization as method of break-through, air action as method of support, protection, and communication—that gives the warfare of today a character entirely different from that of the last World War.—MAJOR F. O. MIKSCHE, *Attack*.

Characteristics of Enemy Aircraft

DESCRIPTIONS and available performance figures of more than 50 types of combat aircraft now in use by Japan, Germany and Italy were made available to the people of the United Nations recently by the British Air Ministry and the United States Army Air Forces.

Of the 31 Japanese combat types listed nine are Army and Navy fighter planes whose chief characteristics include comparative lightness in weight and engines of comparatively low horsepower. Protective armor for personnel is lacking in almost every case and armament consists generally of 7.7 millimeter machine guns—approximately the same as the American and British .30 caliber. The occasional use of 20 millimeter cannon is noted. A more recent type is armed with four machine guns and two 20 millimeter cannons.

Horsepower of these single-engined Japanese fighters ranges from 650 to 850 horsepower at the most effective heights, whereas the four German pursuit planes listed are driven by engines developing 1,200 horsepower.

The German fighters are marked by the more frequent use of 20 millimeter cannon, generally higher speeds and greater protective armor for the pilots. The Heinkel 113 and the Messerschmitt 109F, for example, both single-engined fighters, weigh approximately 5,700 and 6,000 pounds respectively, as compared with an approximate average of 4,400 pounds for the Japanese pursuits. The German fighter aircraft listed also are armed with 7.9 millimeter machine guns which is approximately .31 caliber.

Each of the five Italian fighter planes listed is armed with at least two 12.7 millimeter machine guns which compare almost exactly with the American .50 caliber. Italy also uses the 7.7 millimeter machine guns, fixed in the wings and firing forward in the fuselage. The Italian planes generally provide armor-plating for crew protection which makes them considerably heavier than the Japanese planes of the same comparative class, although rated horsepower for the Fiat G50 and CR42 and the Macchi C.200 is 840 horsepower. The Macchi C.202, which is rated as having a miximum speed of 330 miles per hour at 18,000 feet and a cruising speed of 300 miles per hours, is powered with a 1,200 horsepower engine.

No Japanese twin-engine fighter planes are listed, although descriptions are given for the German Messerschmitt 110, powered with two 1,200 horsepower liquid-cooled engines, and the Junkers 88, driven by two motors of the same power; and the Italian Breda 88, powered with two air-cooled motors.

The German JU 88, night-fighter version of a similarly designed twin-engined ship used for long-range and dive-bombing missions, carries minimum armament of three 7.9 millimeter machine guns or three 20 millimeter cannon in the nose of the fuselage, in addition to 7.9 millimeter machine guns protecting the rear and the underside. It has an approximate maximum speed of 290 miles per hour at 18,000 feet.

The ME 110, with a service ceiling of 32,000 feet, is armed with at least four 7.9 millimeter machine guns and two 20 millimeter cannons firing forward, in addition to machine gun protection for the rear.

The Breda 88 has a rated maximum speed of 310 miles per hour at 13,500 feet, a service ceiling of 28,500 feet, a range of 900 miles, and is armed with three 12.7 millimeter machine guns in the fuselage and two 7.7's in the wings.

Information on two troop-carrying German gliders is included. One—the Gotha 242—has a crew of two pilots and can accommodate 21 other fully equipped soldiers. The plane is armed with four machine guns, and carries a wheeled undercarriage which can be dropped, leaving the landing to be effected on three skids.

The German DFS230 glider has a capacity of 10 fully equipped soldiers, including a pilot, and has a gun port to admit an infantry machine gun. Both gliders usually are towed by a Junkers 52, a three-engine monoplane, with accommodations for about 18 soldiers.

Also listed is the German Focke Wulf 200K, a 24-ton long-range bomber driven by four 850 horsepower motors. This ship has a range of approximately 2,400 miles and a bomb load capacity of 3,300 pounds. Minimum armament includes a 20 millimeter cannon, and five 7.9 millimeter machine guns. Its duties include long-range sea reconnaissance, ship strafing, mine-laying and work in conjunction with submarines.

The Junkers 87—the dive bomber used extensively in Europe during the early stages of the war—is powered by a single liquid-cooled engine of 1,150 horsepower, has a bomb load capacity of 1,100 pounds and is armed with two 7.9's in the wings and one of similar caliber to protect the rear.

The only four-engined Japanese ship listed is the Awanishi T97 Navy flying boat, reported to be based on the S42 Sikorsky flying boat. The Jap ship is a monoplane powered with four 900 horsepower air-cooled motors, and has an approximate range of 1,500 miles with 3,500 pounds of bombs. This ship carries a crew of 10 men and is armed with two machine gun turrets.

Two Italian bombers—the Savoia-Marchetti 79 and the Cant Z1007—are powered with three engines; the SM79 with three Alfa-Romeo 780 horsepower air-

cooled motors, and the Z1007 with three Piaggio 1000 horsepower air-cooled engines. The latter ship is of all-wood construction, has a range of 800 miles and a bomb load capacity of 2600 pounds. The SM79 is of mixed wood and metal and can carry a bomb load of 2200 pounds 1000 miles.

Of longer range is the Italian Fiat BR20, a twin-engined bomber with a capacity of 2200 pounds over 1150 miles.

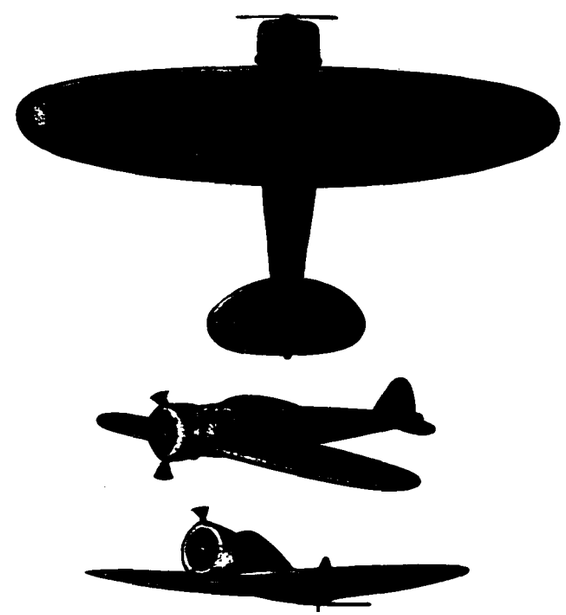
The Japanese Mitsubishi T97, on the other hand, powered with two 870 horsepower air-cooled motors, can carry 4400 pounds of bombs over a range of 1180 miles, and the Kawasaki T97 can carry either 1100 pounds of bombs 1250 miles or 4400 pounds of bombs 240 miles.

The German Dornier 217, a twin-engined bomber powered with two 1500 horsepower air-cooled motors, has a range of 1010 miles with a bomb load of 4400 pounds, and the twin-engined Junkers 88 can carry a similar load 1150 miles. The Heinkel 111 has a range of 1540 miles with 1760 pounds of bombs, or 760 miles with 4400 pounds of bombs.

Seven Japanese Army types of single-engined bombing and reconnaissance planes are described. These include the Nakajima T94, the Kawasaki T97, the Mitsubishi T97 in two variations, the Mitsubishi T98 in two types, and the Showa T99.

Japanese Navy types include fighter aircraft equipped for deck landings and with floats, torpedo bombers equipped for deck landing and for landing in the sea, and multiple-engined flying boats equipped with cannon reported to be as heavy as 37 millimeters.

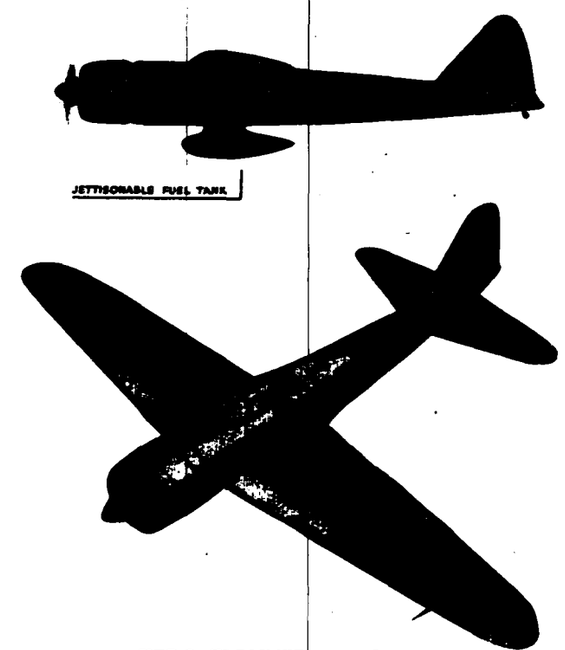
The Much Discussed ZERO Fighter Planes



ZERO FIGHTER (MITSUBISHI)

Elliptical wing, round-tip, dihedral low-wing monoplane; single engine; short, blunt nose; enclosed cockpit; retractable landing gear.

This single-seater plane has a short, stubby appearance. Most of the planes of this type are powered by one Junkers 800-horsepower engine. Its service ceiling is 39,300 feet; its maximum range, 2,000 miles. It has a high rate of climb because of its light weight and lack of armor plate.



ZERO FIGHTER (NAGOYA)

Sweptback, tapered, round-tip, slightly dihedral, all metal low-wing monoplane; single engine; blunt nose; enclosed cockpit; retractable landing gear.

This single-seater has a maximum speed of 344 mph. It is reported to be armed with two 20mm. cannon wing guns and two fixed machine guns. Its service ceiling is 32,810 feet; it can remain aloft 6 to 8 hours by using the belly tank, which holds 70 gallons of gasoline.

STREET FIGHTING*

By Bert Levy

THERE are so-called military experts who seem to envisage fighting as taking place solely in rural country. The emphasis even in professional military training is on country fighting rather than city fighting. Yet we know from the progress of the war already—Tobruk and Sevastopol are among the best examples—that fighting units, whether of the Army itself or of the home guard, will have to fight in every street and in every house, when and if the enemy invades any territory we hold. Therefore, every fighting unit must be trained in the specific tactics of street fighting and particularly the home guard units which will put guerrilla methods into effect. Street fighting is not a negligible part of modern war; it is a very important part. Towns can be made into fortresses and may hold up the enemy for long periods. In the resistance of the Russian people to aggression we have seen how towns and villages, stoutly and skillfully defended by regular or guerrilla forces, can be quite literally thorns in the flesh of an advancing enemy. A town can be the center of a defended area, as at Tobruk and Sevastopol, that holds up the enemy indefinitely. The troops that attack towns and cities must, likewise, know the proper methods of street fighting. But the main emphasis of this article will be on methods that can be applied by guerrilla units as well as regular forces.

Casualties are always very high in street fighting, but the advantage is invariably with the defenders. Ordinary dwelling houses or commercial buildings form excellent cover, and—if the town has previously been bombed or shelled—the demolished buildings, with their great piles of rubble, and heavy beams or steel girders, are still better. Enemy tanks can do very little in street fighting. Nor for that matter can the enemy's artillery or dive bombers help in actual street fighting, for, once the enemy has entered a town, his own shells or bombs are likely to cause as much harm to his own troops as to the defenders.

While a tank can smash through one or two flimsy cottages, it cannot plough along, over or under rows of houses. In a city or town it has to keep to the comparatively narrow streets, and this means that it can be held up by easily constructed barriers. One overturned street car, or a couple of earth-filled trucks, may stop tanks. Furthermore, tanks in cities can be effectively fought by antitank grenades flung from roofs or windows—windows high enough for you to be well out of range of the tanks' guns. Or grenades can be thrown from areas and basement windows, or from cellar or sewer manholes under which a packing case or chair has been placed for the defender to clamber up on when he gets the chance to fling a grenade under a passing tank.

In the defense of a city, town, or village all approaches must be prepared to resist the initial attack by using road blocks, land mines, pill boxes, barbed wire, small strong points on all possibly advantageous ground, cross trenches, fox holes of all types along all roads (and this includes not only main roads but secondary roads), and other similar measures. In preparing strong points for resistance they must be placed so that they can be enfiladed by straight, cross, or converging fields of fire from other strong points. Exact ranges must be known between all points from every direction. Enemy armored vehicles will leave the main roads when they are held up and will atempt to by-pass strong resistance. Therefore be certain that defense points are so prepared that they guard the approaches from every possible direction thoroughly. But if the enemy does capture and occupy a strong point, concentrated fire from all other points can immediately be brought to bear upon it. The first ring of defense of a city or village should be a ring of strong points some distance out from it. The second ring of defense consists of all strong points and buildings on the outskirts, but there should also be plenty of strength between rings, and then concentric rings within.

To convert a village or town into a fortress you will need to erect serviceable barricades. Old and unusable motor cars or trucks, filled with sand or loose earth, are very good for this purpose, as they can be wheeled into place at a moment's notice. Have them already loaded in readiness. You must turn the vehicle over when it is in place, and take the wheels off. A strong rope, fixed to the car's axle or chassis, and brought up over its top, will help your efforts to tip it over. Or a large tree, growing by the side of the street, can be sawed nearly through and pulled across the road when a block is needed.

Flimsy barricades of the traditional kind, such as we see in illustrations of the French Revolution or the Commune, made of furniture and mattresses, etc., are of no use against modern arms and tanks. Their sole utility might be as a temporary shield to enable you to cut across the street, protected from view. If an enemy machine gun is already in place, you will not get the chance to build such a barricade.

Nor will you ever defend barricades in the old traditional manner. It is too easy for the enemy to lob shells over them from their mortars, or even to throw grenades

*Courtesy, *The Infantry Journal*

over them. Barricades can be defended, but by covering fire from houses, piles of debris, and so on.

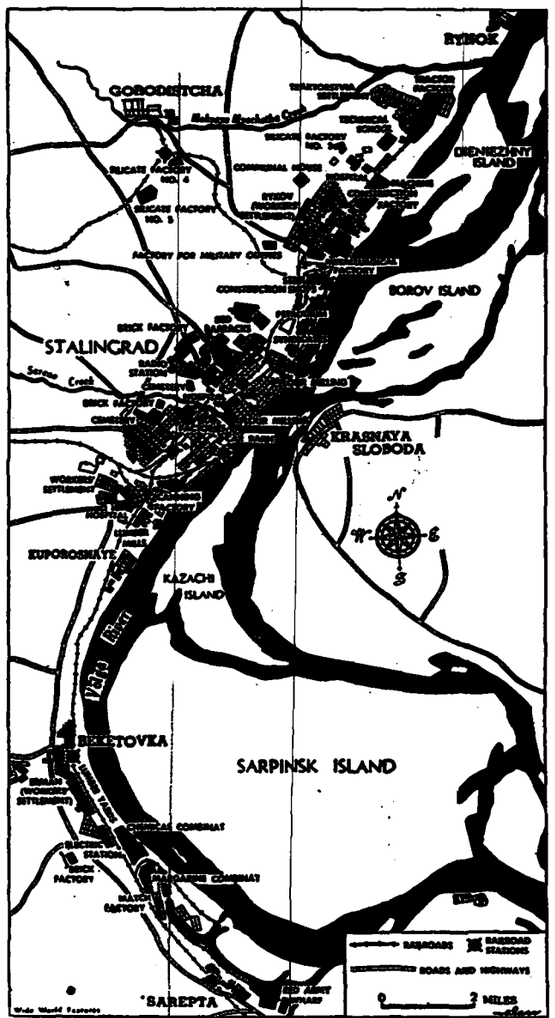
Barbed wire is also useful in streets for holding up motorcyclists and infantrymen, and it has the advantage that it can be rapidly adjusted. But it must not be used stingily.

Back fences should all be removed. The enemy tries to fight in from back yards and the rears of buildings. Dynamite and raze all buildings that obstruct the field of fire. Reinforce all strong buildings as strong islands of resistance. Dig deep dugouts in all available buildings as protection against artillery fire by day. Shore up with 8 x 8 or 4 x 4 beams from the basement to the ground floor and from the ground floor to the second. A false ceiling of planking packed with sand from the dugout will strengthen the building and prevent the quick spread of fire. Have extra exits from dugouts. Crawl trenches from one building to the next should be one of the main concerns for movement at night and communication in case the building is demolished.

Before the enemy attacks a town he will shell and bomb it. The second his bombardment is lifted, his trained units will speed into the town. You must be ready. Therefore, take shelter from his shells and bombs in places which you can use later advantageously to repel his attack. Such places, affording good shelter, are concrete blockhouses and sheet-iron shelters placed inside the rooms of fortified houses. The blockhouses and fortified houses must be chosen so that they face each other across the street and have a good field of fire, and can also cover each other.

Buildings that are or have been reduced to a rubble give very good cover. Beams, both wooden and steel, can be quickly moved and rubble of bricks, concrete, sandbags, packed around them.

While you stay in buildings, you are protected, but as soon as you go out on to the open street you are at the mercy of machine-gun fire. Therefore, get your men across the street in the night time if you can. If, however, you cannot wait, provide them with a smoke screen. Even if a machine gun has a fixed alignment on the street, the gunner will have to keep firing continously as he does not know at what moment you may be crossing in the smoke. This will overheat the barrel of his gun. When he stops to change it, dash across. Learn the firing rhythm of enemy machine guns, the pauses between bursts, the longer pauses when belts or magazines are empty. An emergency screen can be obtained by slinging one or more blankets across the street from upper windows, attached to wire or ropes. Wet the blanket first to make it heavier. A rug can be used. Then throw a weight attached to a string across from one window to the other. Then the men catching the weight can pull over the rope with the blanket on it which has been connected to the string. A machine gun cannot keep firing continuously, and your men can dash across behind the blanket screen during the pauses. The screen can also be used to mask the hur-



The streets of Stalingrad where German and Russian armies are waging one of the war's fiercest battles.

ried movement of a small body of men up or down the street.

In proceeding along a street—if you must use the street—walk on the right-hand side, keeping close to the houses. The riflemen in the houses on the right can hardly see you, much less get a good aim with their rifles. The enemy in the houses on the other side have to hold their rifles in a most awkward position to sight you, unless they can shoot left handed.

Let me strongly advise all guerrilla fighters to practice shooting left handed, and from other awkward positions, such as tree tops. Left-handed men should practice right-handed shooting. You will find this is not time wasted. Remember how many good shots in

pool you have to pass up, if you can't switch the cue over to your left hand!

The lines of retreat or advance should be so planned that every unit is coördinated and protected by the others. Every city block should have its reinforced buildings and every building held by your troops should be inconspicuously marked.

In Spain when the Spanish and Nazi rebels of Franco took a building, they flew a flag or a large sheet from a window, thus giving away their buildings completely to our troops. We used a little dirty rag the size of a handkerchief in an upper corner of a window, or a piece of wool or an old sock placed in the same corner of every window. Barbed wire should be used profusely in street fighting. Rushes are of very short distances (ten, twenty, thirty yards). Machine guns should be placed on the ground floors for an even sweep up, down, and across the street. Rifles in the hands of good snipers on roof tops and upper floors are long range weapons for as far off as you can expect to shoot within a town.

Concentrate all your fire on one building and after blasting in the door with a mortar or grenade get to the top as fast as you can. Here I will quote a paragraph from an article on street fighting by Tom Wintringham, which appeared in *Picture Post*: "The German infantry are trained to try to seize the top floor as soon as they get into a house. It is always a good rule in this sort of fighting to be on top of your opponent. In using hand grenades it is much easier to drop them down than to throw them up: and in using bullets it is easier to fire downwards through floor boards rather than upwards through ceilings which come to pieces and blind you. Fighting within buildings includes much work at close quarters and it is easier to jump downstairs and put your feet on a man's face than to jump upstairs and do the same thing."

Do not rush the door of an enemy-occupied building. And be sure to spring any booby trap before you enter. Two Tommy machine gunners and one grenadier should approach under the covering fire of their comrades. Then, from a prone position alongside the door the grenadier flings in a grenade, and just to make sure pitches in another. Then one Tommy gunner fires from just outside the door across and up into the far corner of the ceiling covering about one-quarter of the ceiling with his shots. The second machine gunner then dashes for the corner of the room under the peppered part of the ceiling and sweeps the rest of the ceiling while the other Tommy gunner is reloading. By that time any Nazi upstairs is either dead or dancing hard. Then one man makes for the stairway covered by the bullets of the others shooting ahead of him. At the same time two or three more men can enter the house and begin to mouse hole into the next room from the secured ground floor room while the others are securing the upper floors. Then they mouse hole through the upper rooms.

Mouse holing is simple work with a pick or crowbar. First make a small hole, toss a grenade through it, enlarge the hole, and toss a second through it from the inside of one room or building to the next, thus making reasonably sure everybody in the room through the wall is killed. Make one hole in all floors, ceilings, and walls. Keep well to one side of a hole as you make it.

Ropes and ladders should be procured to raise or lower mortars and machine guns for high or low level fire as needed. Leave a few men in all buildings as you fight ahead. These will protect you against surprise and be your communication and supply line. Every available man should carry up sandbags. These can be filled from dugouts which should be made in basements right away for protection against artillery fire.

As you mouse hole up one side of the street you can get straight and cross fire from all angles to buildings across the street. Furniture tossed out of windows can act as a screen, masking a short rush across the road. This barricade will not stop a bullet. Make for the center of the town and work out like fingers from the center, taking enemy positions from the rear. Remember that cities defended by determined people cannot be taken without enormous losses by the enemy.

If the Germans attack you in this mouse hole way, occupy the room above, and the rooms around the room into which they will break. Stretch trip wires if you have time. Make loopholes into the "battlefield" room and fire low.

Progress only along one side of the street, as the enemy may be in occupation of the other side, and therefore his planes and artillery will be chary of bombing the street.

As you mouse hole along one side of a street, you can deal with enemy-occupied houses on the other side by directing three converging lines of fire on each opposite house in turn. This fire will come from the house directly opposite the enemy house, and from houses up and down the street from it. When one opposite house is put out of action, you may be able to dash across to take it; then you can mouse hole along, once you have taken the first house, to drive the enemy out of other houses.

Mouse holes are also useful in attic party walls of houses, not for attacking but for rapid movement and for observation. A few tiles displaced in the gables will give you an excellent observation post.

It is not always possible to use the mouse-hole method of taking a street. When this is true the following method can be used for fighting up an enemy-occupied street in the daytime. In starting to take a street men open up a crossing fire on the two corner houses from the protective covering of a ditch, stone wall, or the opposite corner buildings. Then three or four men—no more than that—make a dash for the nearest side of the buildings covered by the protective fire from machine guns, rifles, or Tommy guns. These men work around into the street, around both corner houses, and from any

cover the front of the houses offers take up fire across the street to the corner houses. They fire at the upper stories as well as the lower stories so no overlooked enemy will begin to drop grenades from up above. At the same time other troops should be working up the alleys in rear of the houses and the back yards in just the same manner. Each house should be cleaned out up to the top as fast as possible.

This method has to be used, for example, in a street of detached or semi-detached houses where mouse holing is not possible.

Always note possible getaways in houses you occupy, such as back windows, negotiable garden walls. Sometimes roofs provide a good means for unobstructed movement.

Many detached or semi-detached houses have a "blind side," a side with no windows, or just one or two small bathroom or toilet windows. We can use this side to climb up on to the roof with the aid of a rope and grappling hook. A grenade down the chimneys will surprise enemy occupants.

In making a rapid search of a house, make as little noise as possible. Never blunder into a room but use the utmost caution. Opening any door may explode a booby trap, or there may be enemies in the room, just as quiet as you are, waiting for you to poke your head around the door. Poke a helmet around the door, if you like, and he *may* take a shot at it, although he probably knows the trick as well as you do. However, it cannot do any harm. If you think there is someone in the room, toss a grenade into it—that will probably settle him.

When men are searching a house, others should never wait in the hallway. This is the most vulnerable spot in the house—anyone upstairs can drop a grenade down on top of you.

It is safest to search a house from top to bottom; when you can, get across the roofs and get in through a skylight, gable window or a hole in the roof.

When you want to strengthen a house into a real strong point, it should be a house which commands approaches to several points from which the enemy may attack, in which case you will fortify an entire floor so that you can keep a lookout and fire in all directions.

Once you are installed, sandbag the windows, if possible. If not, use heavy furniture and mattresses piled up in front of them, to keep out hand grenades as well as rifle bullets. Not only the windows of your strong room but those of other floors should also be fortified, for the enemy can always throw a grenade through them.

Then you must make your loopholes for observation and firing. If you remove a couple of bricks you will have a fairly good loophole. Make more loopholes than you need—the others, perhaps larger and a bit more obvious, are for the enemy to fire at. Have your loopholes at various levels. Hang or prop mattresses, sandbags, or folded blankets a few feet behind the loopholes to stop enemy bullets ricocheting. If part of the outer wall is covered with thick creeper, this is a good place to make one of the loopholes you really intend to use. In firing from windows and loopholes don't stick your weapon through; your enemy will spot you at once. When covering a window with sandbags, you can leave a few chinks open between the bags—fix this with strips of wood, if necessary, for observation holes.

Don't forget to barricade heavily the downstairs doors against hand grenades. And always have your getaway either from the back, over the roof, into another house, or even, if you have had the time to make it, a shallow "crawl trench" running through the garden.

After clearing a row of houses from within, attacking troops come to a street or side street which they must cross to rush a house in the next row. If machine-gun fire is heavy along the street they are not likely to get across without heavy casualties. It is here that smoke—perhaps from a vehicle set alight—is used to cover attack or counterattack, and because of the enclosed air spaces smoke can be of even greater value in the streets than in open country where it blows away too soon. Smoke used in large quantities reduces fighting to a muddle of hand-to-hand and man-to-man combats in which all long-range arms are at a disadvantage.

Advance through buildings by mouse holing, or even by a rapid search only, is a slow process. But to advance along streets held by modern machine weapons is suicidal. These weapons are not likely to jam at the critical moment as in older wars and frontal advance against them simply does not work. A machine gun, and even a Tommy gun is almost certain to stop any rush at it by men who have to leave cover twenty-five yards away from it.

It is very easy for anyone with a machine gun to command a straight stretch of street, or a street crossing. For this reason a good deal of street fighting—progressing from street to street, or occupying and fortifying fresh buildings to use as strong points—is carried on at night. Though the enemy is quite near you—they may be in the adjoining street, or even on the other side of the same street—they don't know what you are doing.

The weapons you will find most useful in street fighting are Tommy guns, which—as gangsters and G-men have taught us—are ideal for city work; revolvers, pistols, hand grenades, antitank grenades and any kind of "pocket artillery." Rifles are useful, usually as snipers' weapons, although rather an encumbrance when clambering over roofs or garden walls. Within buildings bayonets are far more trouble than they are worth. Just try, if you like, half a dozen of you running up and down stairs and in and out of rooms with rifles with fixed bayonets—you'll probably do more damage to the men on your own side than to the enemy, apart from getting them caught in curtains, furniture, and so on. If you want to despatch an enemy quietly use a dagger or some kind of blackjack.

Other equipment for street fighting includes torches,

candles—quite probably the electricity supply will have failed—smoke bombs—for cover when crossing streets, etc.—and barbed wire. If you cannot get army smoke generators, you can make smoke cover for yourselves out of cotton waste soaked in oil, straw, dry dung mixed with gunpowder, pitch and tar.

For house-to-house work—this doesn't mean canvassing, as we shall see further on—you will also need a pickaxe, trenching tool or crowbar. An axe is also very handy. And have plenty of filled sandbags.

Here I will quote Tom Wintringham's article again:

"Rifleman should normally be placed relatively high up in a building so that he cannot be quickly rushed. Rifleman should be supported by grenadiers. Machine guns and Tommy guns are usually best placed on the ground floor or the ground level if it is different from the level of the ground floor. At such a level these weapons get grazing fire throughout their respective ranges. On the roof-tops, as the Irish have shown, snipers with rifles can be of great value.

"Roofs and cellars should be considered possible routes for counterattack against a force that has penetrated a row of buildings. Loopholes can always be spotted at street-fighting ranges; therefore many dummy loopholes should be made. It is normally better to defend a house that has been partially shattered or burnt out, because it gives 'natural' loopholes. Men should be trained to fire *from both shoulders*, as much cover in the streets is useful only if they can do this."

If you know your sewer system thoroughly—and you should see to it that you do—you may be able to transport troops rapidly behind the enemy lines in a city, in order to surprise him. But look out for the fumes from damaged gas mains as well as sewer gas—your respirators are no protection against that. In London or Glasgow, the underground railway system can be used to move troops rapidly.

Previous knowledge of the territory is tremendously valuable in street fighting. The man who knows the ins and outs of the town can always keep the enemy guessing. If you dive down a manhole, you should know where the conduit leads to; you will know which particular back yard backs on to such-and-such an alley, and which doesn't. You know which walls and fences are low enough for you noiselessly to lift a bicycle over them and pedal away. You will know just where a twenty-foot plank or ladder can be extended from one top-story window to another as a foot-bridge. Also where ladders are kept, and ropes.

If you have to retire, vacate three or four houses. Set the first one on fire to act as a barrier between you and them. In the next ones you can exercise your school boy malice and ingenuity in setting booby traps, but instead of buckets of water use grenades. Besides delayed-action bombs planted in hiding places, hang hand grenades on doors so that they explode when the doors are opened. Put one in the refrigerator, so that when the enemy comes scouting for food he gets a bellyful.

Don't forget when you fortify your room to bring vessels of water into it both for drinking and extinguishing fires.

When attacking a town by the house-to-house method, plan the whole action ahead of time. Don't just choose any old street. Get a plan of the town and decide to occupy streets which converge on the enemy's position. As your men progress along the streets, they can break out sideways to meet each other, so that your occupation spreads gradually with the detachments coalescing like blots upon paper which spread until they meet.

When attacking Nazi forces succeed in entering the outskirts of a town and reach their rallying points, they try to spread out from them. They normally make a particularly fierce assault towards the center of the city to disorganize the defense headquarters. They try to take the defending troops along the edges of the city from the rear.

But these methods can be countered. Open warfare has its own methods and so does street fighting—often quite different methods but with the same general rules of cover, stealth, surprise, and aggressiveness during the actual fighting.

In the streets the tank and the dive bomber are at a considerable disadvantage. Tanks are of little use in towns against a vigorous resistance; no tank carries enough ammunition to smash down more than a very few houses. Therefore, fighters operating against tanks are always hidden fighters at very short ranges for any tanks that venture into a defended town. For the tank a street is simply a long and dangerous defile where the enemy is not only close on each side but also up above. Tanks have never been successful in street fighting—when obvious methods have been used to overcome them.

In the fighting in France the German tanks used fire and movement and there was seldom if ever a true city defense. The French gunners simply commanded long main streets with their AT weapons and just stayed there. But the Nazi tanks didn't try to move forward straight up such streets. They used the side streets, checking or stopping each time they crossed a main street, in order to throw a shell or two at the French guns, and thus worked close enough to take the guns in the flank.

But this was exceptional. Tanks have generally failed to penetrate streets. In Warsaw civilians and half-trained recruits with poor fortifications defeated a German armored division which reached the suburbs of the city at the end of the first week of fighting, and they did this entirely with improvised methods. Their methods of fighting sometimes became confused as when some garage men tried to use a gasoline pump as a flame thrower at the same time firemen tried to blind the tanks with water. Nevertheless, as Wintringham says, "the methods used by the Poles threw Reinhardt's Panzer division and its supporting troops out of the Warsaw suburbs in twenty-four hours. And they stayed out until the main German army came up many days later."

A city can be bombed before it is attacked, and if the authorities have refused to provide suitable air-raid shelters, the effect will be heavy. But the enemy has to stop his bombing as soon as he tries to enter the city. Street fighting soon gets so confused and there is so much smoke from burning buildings, that bombers cannot operate as close support.

Therefore, the main weapons our enemies have are not of much value in cities and the same goes for anybody's tanks and dive bombers. "Street fighting," writes Tom Wintringham, "is mainly infantry fighting. But it is not mainly fighting *in the streets*. It is mainly fighting within buildings or from within buildings."

Stalingrad Under Siege*

By Konstantin Simonov

THE Germans are besieging Stalingrad. But when one says "Stalingrad," one does not mean only the city's center, or main street, nor even its outskirts—but the whole huge 40-mile belt of territory along the Volga. This is made up of many towns, factory sites and settlements which merge into the form of one big city, occupying the whole Volga bend.

The city is not what it was when we saw it from the Volga River boats, with its merry white houses climbing uphill, and its rows of beach cabins, kiosks and cottages along the riverside. Now it is a gray and smoking city over which flames rise day and night and ashes fill the air. Day and night the earth shakes with the thunder of cannon and air bombardments. Long since there has been no safe place left in the city. But here they are used to this lack of safety. Fires rage in the city. Many streets exist no longer, others are honeycombed with bomb craters. The women and children who still remain in the city find shelter in basements, large caves and gulleys running into the Volga.

The Germans, who have been storming the city for a month, strive desperately to capture it, heedless of the price. The wreckage of shot-down bombers litters the streets. Antiaircraft shells burst in the air, but the bombing does not cease for a single hour. The besieging force tries to turn the city into a hell where no life is possible. Indeed, it is hard to live here, where the sky is aflame over one's head and the earth trembles under one's feet. The sight of the gaping walls of buildings which but yesterday were so peaceful contracts one's throat with a spasm of hatred.

It is night. We are standing at the outskirts of the city. In front of us lies a battlefield. Marking the forward edge, white German flares rocket to the sky. Heavy thunder rolls behind us: German bombers again dropped their loads on the city.

In a small rattling car we steer our way gropingly to headquarters. The headquarters and signal center are hidden deep under the ground. This is the brain of the Stalingrad defense and no accident must befall it. The usual staff bustle reigns here. Telegraph operators, pale from sleepless nights, rattle away their dots and dashes, liaison officers walk hurriedly by. But this time it is not hills and defense lines which figure in their dispatches, *but the names of streets and sometimes even house numbers*. Their eyes are heavy with lack of sleep, their faces leaden. I try to strike a match to light a cigarette, but it goes out at once—there is little oxygen in this catacomb.

As we leave headquarters we see one house intact in a long line of demolished buildings. Out of its gates comes a train of screeching carts heavily laden with bread. The house which escaped destruction happened to be a bakery. The city lives—it lives—in spite of all odds! The carts proceed slowly along the streets, halting when a mine bursts in front of them.

In the morning we are in an observation post situated on the fifth floor of a building. Flowerpots, removed from the windowsills, stand on the floor, and a stereoptical tube has been installed in their stead. This tube is only for watching distant positions—so-called forward positions are within sight of the unaided eye.

We see German trucks moving along a row of houses in one settlement, then a motorcyclist speeds by, then come the Germans on foot. Suddenly a few of our mines burst in their midst. One truck halts in the middle of the street, another maneuvers frantically, then presses close to the houses. At once the Germans return the fire and their mines whizz by, striking somewhere in a neighboring house.

*Courtesy, *Krasnaia Zvezda*, reprinted from the Soviet Embassy *Information Bulletin*, September 25, 1942.

The Battle for the Peking-Hankow Railway

*By Lieutenant Colonel Tisheng Yen, Chinese Army**

THE Sino-Japanese War that began on July 7, 1937, and is still going on in the fall of 1942, is only the continuation of the "Manchurian Incident" of 1931 and the outcome of the Japanese international policy. China was not surprised. Japan had deliberately planned for the war and plotted the small "incident" at Lukow Bridge; subsequent "diplomatic negotiations" merely served to gain time.

When the war began Japan had already called up all her reserves, doubling her normal establishment of 24 divisions to 48, not counting the Imperial Guard Divisions. Out of these she sent over to China right away 24, some 450,000 men, plus 3 Mongolian and 1 Manchurian Division. Of these Japanese divisions seven were used in the North China Plain, seven in the Northwestern Highland, reinforced by three Mongolian divisions, and the rest of them were used in Shanghai. Her plan was to occupy the whole of the North China Plain and the lower Yangtze Region, make a junction at Shuichow, an important railway center, and then converge upon the Wuchang-Hankow area in the upper Yangtze Region.

China's plan was to stage an extensive and intensive guerrilla warfare, and to break down the Japanese momentum by harassing their communication lines and wearing out their troops. At the beginning of the war China had some very well equipped divisions, which could have carried on a more effective guerrilla warfare than the untrained and semi-organized men from the peasantry. Unfortunately, political reasons gained (as they always had) an upper hand of our military wisdom. China lost the cream of her army in the Second Battle of Shanghai, August 13th to November 11th, 1937, but by her successful and heroic stand, without giving up an inch of ground for three months against the Japanese, she amazed the world, raised the Chinese morale, and exhausted a good deal of the Japanese strength. But China was considerably bled by this, and it took a long time to recover; whereas Japan easily replaced her losses without affecting her armies in North China in the least. Consequently, the Chinese armies in the north could only take up a delaying action.

After the capture of Peking on July 29th and Tientsin on the 30th by the Japanese, the main body of the 29th Army withdrew along the Peking-Hankow Railway to join force with the Twenty-sixth.

After one and one-half months' fighting, the Japanese succeeded in crossing the Yungting River on September 24, and captured Paoting and Tsangchow, holding roughly a line extending through both cities. The Japanese First Army, operating along the Tientsin-Pukow Railway, were coöperating closely under the unified command of General Count Juichi Terauchi, Commander-in-Chief of the Japanese North China Forces.

On our side the Peking-Hankow Railway Front and the Tientsin-Pukow Railway Front were under two different war areas with a Commander-in-Chief for each area. It appeared and later proved to be, that no stand could be made between Paoting and Chengting along the Peking-Hankow Railway. General Chen Shang, who was to take up on this front, and we, the entourage, immediately proceeded up the Peking-Hankow Railway to establish our Headquarters, and to conduct the operations on that front.

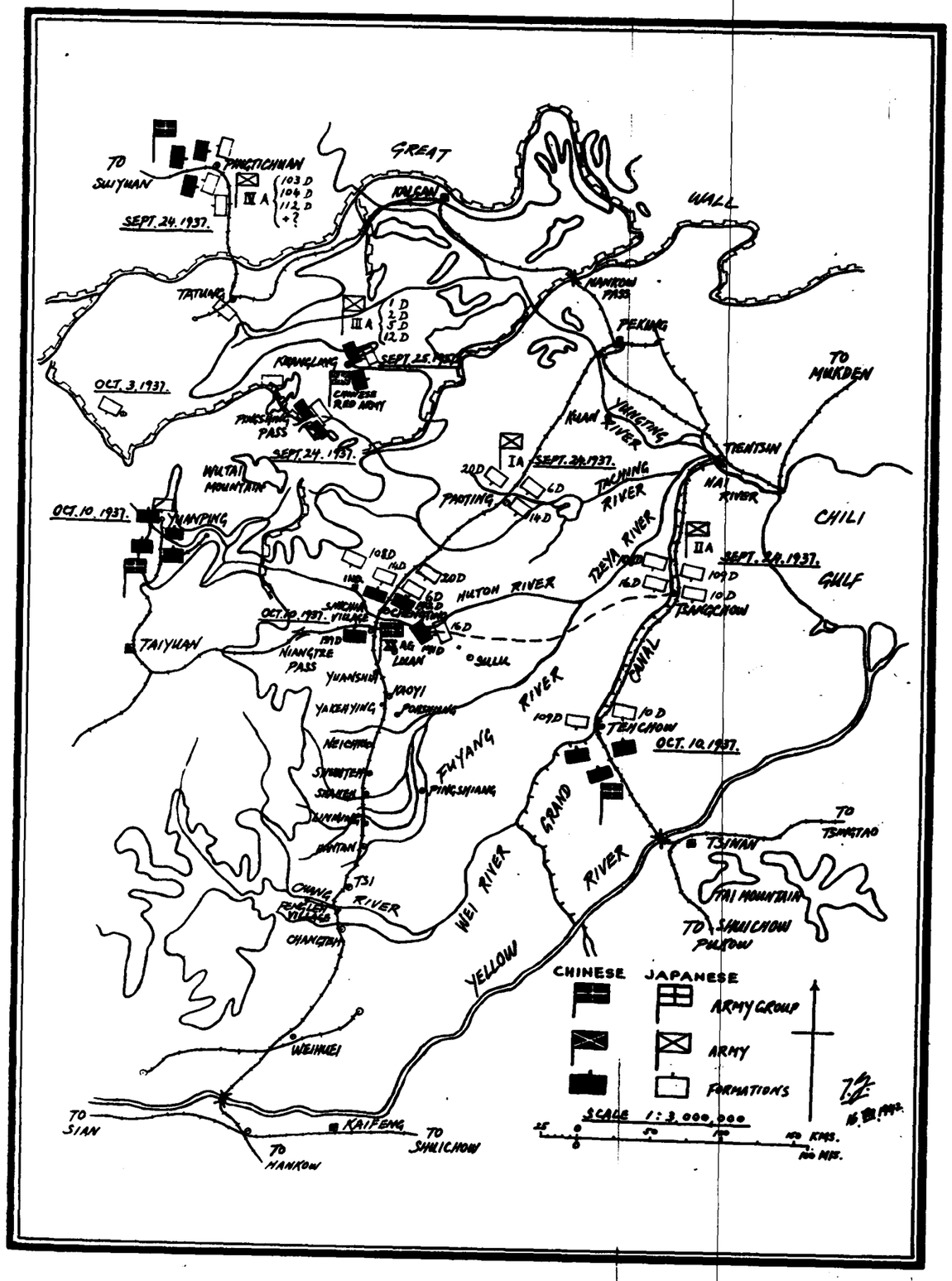
Topography

The Battle for the Peking-Hankow Railway was fought in the Province of Hopei (formerly Chili), which compares in both size and shape to the State of North Carolina in America. The soil, having a slight touch of desert sands in its main alluvium composition, is neither very sticky as clay when wet, nor is it very loose like dry sands. Though the wind does always blow up a thick dust, yet after a rain, when the sloppy mud dries up, the soil becomes fairly hard and firm, making it an ideal country for mechanized forces, for armored cars, and for motorized troops.

The whole country is flat, and covered with fields of wheat, barley and similar vegetation. There are insufficient trees, however, and very few woods that can be used for concealment. This is the greatest handicap to the side that does not have the command in the air. Because of the nature of the earth and ground, passive de-

*Editor's Note: During the Battle for the Peking-Hankow Railway Colonel Yen served as *aid-de-camp* under General Chen Shang, Commander-in-Chief of the Chinese forces that participated. At present, General Shang is the Director General of the National Military Council, and at the same time holds the position as Chief of the Foreign Liaison Office between the Generalissimo and General Magruder, Chief of the United States Military Mission to China.

Colonel Yen, now in the United States, wishes it known that this article gives out no military secret and that it in no way represents official Chinese opinion.



A couple of sentries, standing aloft on top of a typical Chinese city wall, which is about five meters wide and eight meters high.

fenses against mechanized forces simply cannot be made. Not only are there no defiles to block, but anti-tank trenches are almost useless there, for the sides of these trenches often collapse under the slightest pressure or even in a rain.

Although this region is covered all over by rivers, they are mostly fordable at their upper sections and form no real obstacles to infantry, cavalry, or mechanized forces. Of all these rivers the Fuyang played a very important part in this Battle for the Peking-Hankow Railway, not because it was a natural line of defense for us, but because the Fuyang and its tributaries had served as a marvelous fanned-out highway system for the Japanese armored motorboat units steaming down from Tientsin.

It should also be noted that all railways in China are single tracked, and trains can only pass each other in opposite directions or overtake each other at the various stations, all railways being of the standard gauge of four feet, eight and one-half inches except in Shansi where the meter gauge only is use. (See Map.)

Strength of the Armies

The Japanese forces in this Battle for the Peking-Hankow Railway were organized in the First Army which consisted of the 6th, 14th, and 20th Divisions, with many army troops; and it was reinforced by the 16th and 108th Divisions after they had fought in the Battle of Tsangchow along the Tientsin-Pukow Railway. The 108th Division took part in the flank attack on Shanshi only; that is, after the fall of Shihchia Village. Each of these divisions had two infantry brigades of two regiments each, totaling some 22,000 men; the triangular divisions of 15,000 were not yet introduced.

Besides the normal establishment of one regular artillery regiment of thirty-six 75mm guns and twelve 105mm howitzers in each of the Japanese divisions, the First Army also had two brigades of medium artillery of 105mm howitzers, and one regiment of 105mm guns. There was another regiment of antiaircraft artillery, which was not used at all for we did not have a single plane in this War Area.

They also had four companies of armored cars, many tanks, and one regiment of armored train, which operated along the railways. Some units of air force and chemical warfare troops were also attached. All told the Japanese forces in the Battle for the Peking-Hankow Railway were about 120,000 strong.

The Chinese forces consisted of the 32d Army comprised of three pure infantry divisions, plus some army troops. A standard Chinese division was supposed to have only twelve guns of 75mm, but many of the divisions did not even have these. None of our divisions in the 32d Army had any artillery. We had only in the army troops a few obsolete mountain artillery which would soon be seen to amount to nothing at all in face of the Japanese artillery of much longer ranges.

As to the service troops we had only some commandeered oxen, horses, and mules, and their carts for the whole army and the different divisions. Signal establishment consisted of one signal battalion for the whole army, and the equipments were mostly field telephones. Between the Army Headquarters which was also the Army Group Headquarters, and the Divisional Headquarters, however, there were wireless telegraphic communications. Incidentally there were a few scores of carrier pigeons, which had just been incorporated into the service not long before the start of war, and therefore lacked training and were never used. In fact even when these birds were used they could only bring messages from the divisions to the headquarters, but not *vice versa*, because there was only one "home" for the pigeons.

The other troops in the army group need no detailed description; and all told we did not have more than 40,000 men. It is obvious that we were not only much inferiorly equipped but greatly outnumbered.

First Phase of the Battle

In the First Phase of the Battle it was also a test of nerves against matériels, as it was in the Second Battle of Shanghai, except that in Shanghai our troops stood their ground for three months, while in Chengting they stood four days. This shortness of the duration was not a lack of courage but a lack of man power.

These determined men without any adequate cover, and without any artillery or planes of their own to support them, could only rely upon their chances. If they survived the ordeal, they have to go through another hail of Japanese infantry guns and mortars. When the attacking infantry advanced they had yet to survive the Japanese rifle marksmanship. For the Japanese soldiers have plenty of practice with ball ammunition in their training, while a Chinese soldier would be lucky if he could have three rounds of target practice a year. The effective range of his rifle is much handicapped by his mediocre skill at arms. The only thing a Chinese soldier can count upon is his nerve. What Napoleon said "The spiritual is to the physical, as two is to one" has certainly been proven here.

On October 3rd we established our Headquarters at Shihchia Village at the junction of two important railway lines. All strategical elements of surprise were out of question in a flat plain like this where trees were scarce and where the Japanese possessed absolute air control, while the Chinese did not have one single plane even for observation and reconnaissance purposes. They had to take this railway junction and we had to defend it. Their plan was to take the railway junction, push us south of the Yellow River, and effect a flank attack into Shanshi from here. Our order was to delay the Japanese as long as possible along the Peking-Hankow Railway line.

On October 5th the Japanese advance guard made contacts with our outposts in front of Chengting, and on the 7th at about 10:00 AM they opened up their artillery bombardment on our entire front. It continued for five hours without a single interval till 3:00 PM, and about 7,500 rounds of 75mm shells must have been fired. The same bombardment continued on the 8th and 9th, and we had neither effective guns to reply to their fire, nor a single plane to shoot down their observation balloon, which could spot out any individual object on this flat plain within range of their guns.

Also on the 8th the Japanese raided Shunteh by air. One of their heavy bombers was shot down by small-arm fire, and from the pilot-officer's diary we got plenty of information, which confirmed the organization table of the Japanese forces in this battle.

Streams of walking wounded came past the gate of the Shihmen College compound, and the general met them there on the road with a few kind and encouraging words. Those unable to walk by themselves were being carried back, if they had friends. Medical service and stretcher bearers were almost nil. For one or two of the officers it was a crucial test of their leadership, because if they had been bad leaders they would most likely be left behind, lying wounded where they fell, and abandoned by their men. This all sounds so beastly inhuman, but this is also the way of natural selection. On the other hand most of our "officers of the line" have always been good and beloved leaders of their men; and we cannot afford to be otherwise. Unfortunately many "staff officers" and "military instructors" fail to appreciate this, and so they shrink from taking over a command, which incidentally is rarely given to them. Unlike in other nations, in China these three classes of officers are practically not intertransferable. Though an "officer of the line" may become either of the other two, it is rarely *vice versa*.

We felt we were disgracefully deserted by the outside world; we felt as if we, the people in this area, had belonged to a world of our own.

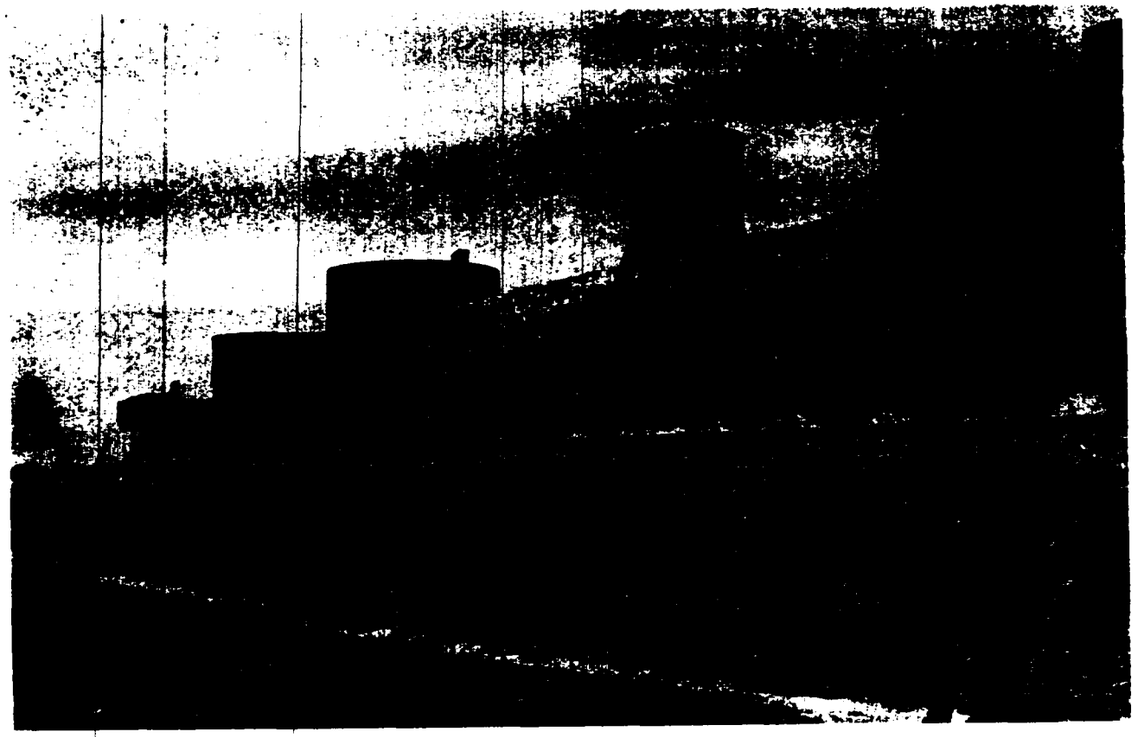
By the 10th the Japanese opened their attack on our other division in the right flank, and after three days of bombardment on our hastily-constructed trenches in front of Chengting, they concentrated their fire along our positions directly across the railway and on the city of Chengting itself. Their 155mm howitzers joined in the effort, and the ancient wall of Chengting collapsed.

Colonel Chikeh Chiang, Chief of our Staff Branch, was sent to Chengting to see General Sung to arrange a withdrawal in conjunction with the 141st Division to the line Towyui-Luan. The headquarters at Shihchia Village was only our Advanced Field Headquarters, while the bulk of the headquarters with its personnel were at a small village some twenty kilometers to our rear. Though we had already prepared to move our Advanced Field Headquarters back to Towyui, and to make another stand along a line extending both sides of Shihchia Village, we had to abandon this plan, for the Japanese entered Shihchia Village close upon our heels. We left Shihchia Village in the night of October 10th-11th by train to Yuanshih, and made our Advanced Headquarters there, while the main body of our Headquarters moved somewhere further to the rear.

The troops of the Independent Brigade withdrew southwestward more to the side of the mountains and later joined up with the Chinese armies in Shanshi, while the 142d did not withdraw through the town of Shihchia Village itself, but withdrew by the sides of it, and that was why the Japanese were almost on us there. The 141st Division kept on protecting our right.

Because our headquarters had always been unusually close to the front, we had not been bombed from air even once throughout the entire operation. Nearly all the cities and towns along the path of our withdrawal had been bombed by the Japanese planes almost always the day previous to our arrival there. On the other hand, this proximity of our headquarters to the front was one of the causes of the breakdown of our intercommunication system.

The night of the 11th-12th, guns were heard only now and then but nearer and nearer, and they sounded like the infantry guns and mortars. Small-arm fire, though, was in full swing, mixed with the explosions of hand grenades; all were very close. Soon it was reported that hand-to-hand fighting had already been in progress a couple of kilometers away to the north and east. And so about 2 AM we went to the station, boarded



A Chinese Armored Train Unit, stopping mid-stations on a typical Chinese railway line. The last truck is for antitank and antiaircraft guns, the second van from the rear has two gun turrets, the third has an observation tower, and the commander's van is half shown, on the right of which is the armored locomotive also not shown.

our train, and moved farther south, arriving at Kaoyi before the next dawn.

Second Phase of the Battle—Withdrawal

Arriving at Kaoyi, twenty kilometers south of Yuanshih, on October 12th, an urgent order was dispatched at once to the divisions by wireless telegraphy to the effect that in view of the situation, while keeping the Japanese in check with light detachments, the divisions must withdraw a good distance in order that the men might rally and make a stand; that a running fight must be avoided by all means, as it had already been going on; that the Headquarters would not stop at Kaoyi but move on to Yakehying tonight; and that further communication would be from there.

Now Yakehying is about ten kilometers south of Kaoyi and one kilometer southwest of its station. We arrived there the following morning when the sun was just rising; we left our train, and proceeded on foot to the city. Only a few guards were left on the train. By this time our twenty guards had been reinforced at Shihchia Village during the withdrawal by one platoon of gendarmes. And this morning right here, they were again reinforced by one platoon of cavalry from our own cavalry battalion which was withdrawing with the divisions.

As we had just erected the antenna of our field wireless station, and even before we had contacted the divisional headquarters, shots rang out at the railway station, and orderlies ran over to the city to report that the train had been attacked by patrols of Mongolian cavalry. The fireman on the locomotive was seen starting the train southward a few hundred meters. We ordered our cavalry into action at once, and they succeeded in dispersing the raiding party.

Again we tried to contact the Divisional Headquarters, but again we failed to get them. Apparently they were still on the move, and had not had their antenna erected. And now it would certainly be too late, by the time we could contact them, to have the divisions make a stand along the poverish trenches dug early this spring around this place. It was quite meaningless for the headquarters to remain here any longer.

And so we got on our train, moved a few kilometers southward, and halted in mid-stations to make another contact with the divisions. Again we failed. The situation became desperate. The troops must have withdrawn away from the railway on both sides of it. Finally we made a contact with the War Area Headquarters at Hantan, with whom we were in constant communication. But we were told that the Japanese armored motorboat units had already steamed down the Fuy-

ang River, and raided Pohshiang, and Pingshiang, and that the War Area Headquarters was ready to move off to Tsi.

It seemed we were completely outflanked and almost cut off from our rear. There had never been any cooperation between our right and the left of the Chinese armies along the Tientsin-Pukow Railway Front, and the liaison between the two war areas was far from satisfactory. And this must be why the Japanese could outflank us through this big gap that existed all along from the very beginning. Although the Japanese attacked our flank continually from now on, their main attack kept to the railway, and the highway that runs side by side with it, because by keeping close to this artery of communication they could keep up their supplies easier.

What were we to do? The War Area Headquarters gave us no directions. We knew the Japanese armored train units would soon be able to go straight down to the Yellow River if no one blocked their way. Since this Peking-Hankow Railway is single tracked, we could do it if we hung on to our train and withdrew slowly. The Japanese armored train simply could not pass us, except, of course, at stations. And most probably they did not know the identity of this train of ours, and their advance guards would have to deploy every time they encountered us. To delay their armored train, we would also pierce all the water tanks at the stations on our way. This was the course we decided to take.

Though we later tried to contact the Divisional Headquarters many times, we failed to get them till we got in Shunteh the following day. From Yakehying we moved very slowly in our train to Neichiu, our cavalry platoon followed us along the sides of the railway. We were in Neichiu Station in the afternoon. The Japanese planes came again, circling over the station, but again dropped no bombs. A few moments later they flew back to the north, and before getting out of our sight they dropped a few bombs about fifteen kilometers northeast of us, and then swept the area with their machine guns. Troops must have been withdrawing over there.

We spent our night of the 13th-14th on the train at the station. Another train loaded with provisions was stopping beside us on the next track. Having slept all these days at odd times in a leaning position, for many of us shared one compartment, I decided to lie down for a change. I got under one of the seats in our compartment, but no sooner than I pulled off my boots and closed my eyes, shots burst out on all sides. The few guards and gendarmes on watch reported that we were being raided by plainclothesmen. Plainclothesmen are guerrillas in offensive action.

The guards could not very well reply the fire, for in the tumult of the night it was difficult to distinguish who was who. Our cavalry resting near by could not offer much help, for the plainclothesmen had penetrated between them and the train. The firemen on both of the locomotives got excited and both tried to pull out of the station southward onto one single track. The provision train collided into the side of our locomotive, and broke its left connecting rod. Our train could not move any further.

We therefore abandoned the train, and marched the whole distance of twenty-five kilometers during the night to Shunteh, where we could get the regiment of garrison to make a temporary stand, and try to contact the divisions again. We got in Shunteh before dawn, and called Colonel Wang by telephone at the station, for the city is about two kilometers east of the Railway.

While the colonel attended to his mission, we got a new locomotive, went up the railway to get the two abandoned trains, and succeeded in getting both back to Shunteh. As we were again entering Shunteh Station on the same track we left an hour before, two of the foremost vans of the rescue trains overturned over the track, but the locomotive remained on the rails. During our one hour of absence some fifth columnists had removed a couple of the nails that fastened the rails to the sleepers.

During the day, battle went on between our one regiment and the Japanese advance guard five kilometers north of the city, while railway-men and engineers were busy in making a short loop track from where the two vans overturned, so that we might bring down our train and the provision train behind them. About 10 PM the track was connected and the two trains brought down to the station. Order was given to the regiment to withdraw along the side of the railway. Contacts were finally made with the Divisional Headquarters, and orders were given them to rally at Changteh as soon as possible, for they were already not in a position to rally successfully in a smaller distance. The decision was very wise, for otherwise they might never have been able to rally at all. And this is why no troops should ever allow themselves to become entangled in a running fight, and unable to extricate themselves.

We moved about ten kilometers out of Shunteh and halted mid-stations. We were anticipating every eventuality at any moment, for, as mentioned before, we knew that the Japanese armored motorboat units had already raided the cities along the Fuyang River to our right rear a couple of days before, and where our train stopped was close to one of the branches of the Fuyang. At the same time we had information that the Japanese armored train had already entered Shunteh the night before, and it would not take them long to repair the rails we had removed from its bed.

Nothing happened the whole morning of the 15th, and, as we were again on the move to the Shaho, we saw some Chinese troops withdrawing along the railway a few hundred meters to the east. We halted the train, and an officer was sent over to find out what troops they were. They were found to be the Thirty-first Army under General Kehren Wu, of whom we

had heard nothing since the withdrawal from Paoting. A few minutes later General Wu came to our train with a couple of aides and staff. He said he also had orders to rally along the Chang River, and he became our guest.

As the two generals and the chief of staff were having their meal I took a little stroll outside of the station to the east. A couple of our guards were scattered in the fields immediately joining the station, and the city of Shaheh was about four hundred meters to the northeast of us. A highway ran alongside the railway leading out through the south city gate. Outside the gate the road sank below the fields on either side of it for about a hundred meters, and then came out into the open. From where we were we could not see anything on the sunken section of that road.

Suddenly I heard the noise of tanks, but could see nothing. It was not long before we saw three tanks emerging from the sunken road, and coming towards us. The guards opened fire at once with their light automatics at the tanks, but it was quite useless. To this the tanks immediately replied with bursts of machine gun fire. I ran at once to the Chief of Staff and asked him to come and have a look at them. After a glance at the scene he said that we must move off at once. Before even making a detailed report, he told me to usher the generals immediately onto our train. The guards were called in, and we moved off right away.

No sooner than we moved off the Japanese tanks opened up their 37mm guns at our train. The train rocked like earthquake when one of their shells found its mark on our locomotive in front, and every thing on our table fell down on the floor. The train shook violently again when another shell hit on the junction between the locomotive and the van next to it. As we were outdistancing the tanks, a last shell found its mark on our train, while many others landed and exploded on either side of us. We halted the train after going about five kilometers, and came down to inspect the damage. Those two shell hits upon the locomotive did not paralyze it. The third shell pierced our last van, pierced a sack of salt, and then pierced clean through the heart of one of the gendarmes who had their quarters on that iron-clad van. The shell failed to explode, but the soldier died instantly. Outside my window I found a 6.5mm machine gun bullet, stuck obliquely in the wooden wall of the coach.

Then we moved on, spending the night of the 15th-16th at Linming Station. That was the first undisturbed night since the Japanese began their bombardment of Chengting eight days ago. The next day was quiet, and a cavalry patrol was sent out to reconnoiter. They reported that the Japanese tanks were approaching, in conjunction with their armored train and Mongolian cavalry; but we spent another peaceful night at Hantan. Next day, the 17th, was drizzling in the morning and the distant buzzing sound of approaching tanks was clearly heard. But we were not to move off until the tanks would have encountered us, deployed, and opened up their fire. Anxiously we waited. The sound grew louder and louder. Shells, small ones, began to fall and explode around us. General Wu's aide was hit by a broken piece, which smashed the wooden box of his Mauser pistol. Thanks to the pistol, he escaped injury.

Then we moved off heading for Tsi. That same afternoon we tried to contact the War Area Headquarters at Tsi, but failed to get them. We got in the station at Tsi by 9 PM, and stopped our train. There were a few civilians on the platform. As we were just going to descend to inquire about the direction to the War Area Headquarters, these people fired upon us with pistols and threw a hand grenade towards us. Without waiting for orders the firemen in the locomotive got the train out of the station almost instantly. A few kilometers away we noticed some soldiers who apparently had lost their regiments; we stopped, and picked them up. From them we got the information that the Japanese plainclothesmen supported by their armored motorboat units had already occupied that city in the afternoon, and that the Commander-in-Chief of the War Area and his staff had taken to a cross-country march west of the railway towards Liuhoko, apparently from where they hoped to proceed to Weihuei by train.

We continued on the last stretch of our long journey to Changteh, where we could rally our troops and make a stand in conjunction with the men of the Thirty-first Army, which was also ordered to rally there.

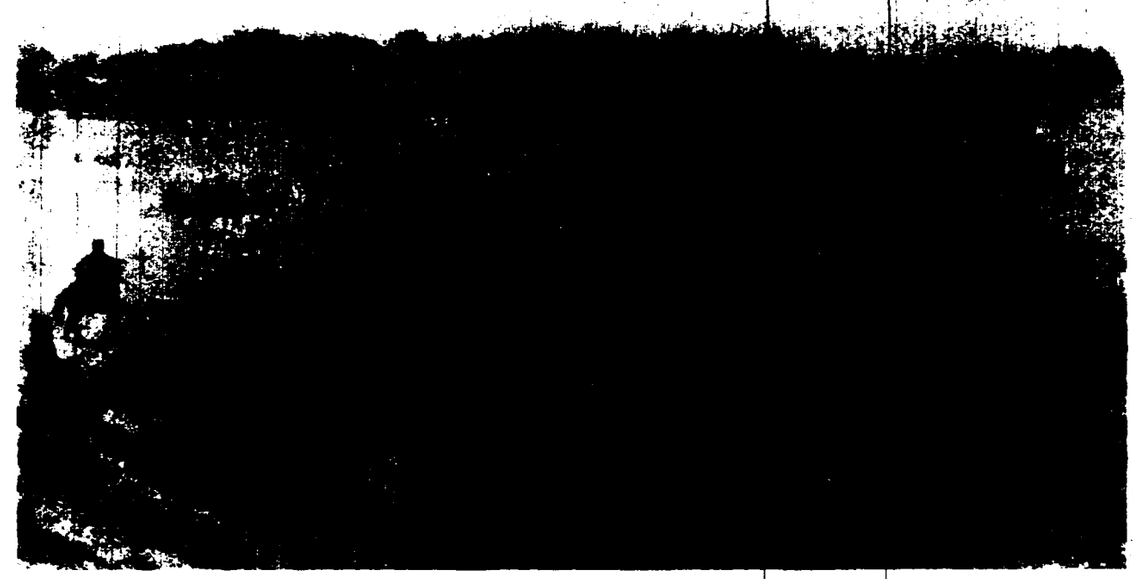
When our train arrived at the railway bridge of the Chang River, it was about midnight, the 17th-18th, and the moon was high and almost full. Now most of our railway bridges serve a double purpose—for train and for pedestrians. At that time the bridge was all jammed by troops, refugees, and animals proceeding south of the river. Before the train could stop in time it knocked down one mule, killed the thing instantly, and got the two front wheels of the locomotive off the rails.

The fireman said that he could not be responsible for the safety of the train to go on across the bridge. And while we were trying to get the wheels on the rails again, 75mm shells suddenly exploded all around the train and the bridge; so we again abandoned our train and got across the bridge on foot. The bridge is fairly wide, about one hundred meters, and the river could well serve as a line of defense.

Third Phase of the Battle

On the bridge we just crossed were troops of various divisions that had withdrawn all the way from the Battle of Paoting, but none of our troops were among them. Behind our train stopped at the bridge was the provision train which had followed us all the way from Neichiu.

The small village south of the bridge is called Fengleh. Very soon we found out that fresh Chinese troops



A Chinese cavalry charge in North China. Note the grave mounds, the dust, and a typical village in the background. Note the small but hardy ponies.

were already in position all along this river to take up a defense. These troops were under the command of General Enpoh Tang, who defended the Nankow Pass before it fell on August 26th. These men had withdrawn through Shanshi, and had rested for a month or so. We at once telephoned General Tang in his Headquarters at Changteh, the County City some fifteen kilometers to the south along the railway. We gave him a rough account of the situation in front of him. He had no news yet about the Commander-in-Chief of the War Area.

By this time one of the tough soldiers of the 92d Division, who only had a faint idea of the mechanism of a locomotive, actually brought the derailed locomotive and the train safely across the bridge and halted in the Fengleh Station. At this time there was a Chinese armored train regiment in the station. So we boarded it and moved across the bridge to have a look over the other side and to pick up the provision train. As soon as we got over to the north side of the bridge, we saw the Japanese armored train speeding fast northward and taking along with it this provision train. We fired a few shots from the 75mm guns carried on the armored train, but failed to score any hits. The Japanese did not even try to reply with their 75mm guns, from which we must have been shelled last night.

A great number of Mongolian cavalrymen were seen dispersing to the north along both sides of the railway, at whom we also fired a few shells point blank. Then we returned south of the bridge, changed to our own twice abandoned train, and went on to Changteh, where a conference was held with Generals Tang and Wu. After a couple of days men in our division began to rally together, rested and joined again in the defense of Chang River in conjunction with the other armies. By then the Commander-in-Chief of the War Area had also reëstablished his headquarters in Weihuei.

Conclusion

There is no need to point out here that we were withdrawing all the time. This is not an apology. Its purpose is to serve as the basis of a study into the successes and failures of both sides on this front.

A thin line of pure infantry could hardly be expected to hold anything else except infantry. On our front the Japanese were both materially and numerically superior to us. A delaying action seemed to be the only choice.

Fighting in a positional warfare is costly in human lives, and cannot go on forever. Whether it is justified is another question; and so after the Battles of Yunting River, Shanghai, Chengting, and later Taier Village and Hankow, we gave up fighting positional warfare. The best example and first major victory we had since then was the First Battle of Changsha, which was entirely guerrilla warfare carried out by regular troops.

One other lesson we find in this Battle for the Peking-Hankow Railway is that the pursuit has always failed to catch up with those who withdrew in front of them. In the second phase of the battle the Japanese

could have had us all captured if they had been bold enough. Apparently they were not aware of what important personnel were in front of them and what almost defenseless group that had caused them to halt, and to be delayed. This shows that they had made a very poor use of their air force, and had invariably bombed cities and stations some twenty kilometers south of us. What more can be desired by one in carrying out an aerial reconnaissance when he has an absolute air control over a coverless flat country?

Had the Japanese employed their air forces and cavalry thoroughly and wisely, working in conjunction with their armored train and tanks, they could have pushed on right to the banks of the Yellow River, or even have crossed it at that time. Their failure in this was a result of their failure in reconnaissance, *and this well shows that a cavalry (horse and mechanized) and air force reconnaissance team is indispensable to any army.*

As it has been said above that battles in Hopei are essentially battles for the control of railways, it is because these few arteries of communications provide the only efficient means of rapid transportation vital to success. But at the same time the lack of good roads does not prevent mechanized or motorized units going all over the country, and since the country is so flat and coverless, successful guerrilla warfare by infantry is almost impossible.

On the other hand, had we had even a few regiments of cavalry and an armored train attached to us in the beginning, we could have stemmed the Japanese advance right there in the north of Chengting. Cavalry raiders can carry out there an extensive guerrilla warfare, provided they move by night and rest by day. Their great mobility enables them to operate over vast area by night and scatter over wide area by day to rest, so as to make up for the lack of cover for concealment from air, and the lack of antitank and antiaircraft weapons.

Obviously on our side the vital importance of a unity of command is what we must learn. Both topographically and strategically Hopei should have been under one single War Area and one single command; not two. With one single command efficient liaison could have been better maintained, plan unified, coöperation more in harmony, and principles of war more closely followed.

In a modern war that has again become highly mobile the location of headquarters needs careful consideration. The proximity of the Commander-in-Chief to the front is though much desired for the direction of operations and for the general morale, yet the closeness of the headquarters to the front often proves disastrous. This is not referring to the commander's personal danger. For if there is an indispensable person in an organization, that organization must be a very inefficient one. It is only the nucleus of an organization that must not be exposed to danger, for otherwise the whole system will be disorganized and broken into pieces.

We now come to the question of withdrawals, which must be faced with honor and honesty. People usually shrink from talking about withdrawals. This is good: it shows excellent morale; and it is desirable to keep the men in such spirit. But to the officers, and commanders of higher formations especially, there is no place for foolish sentiments. To the officers, and to us only, war is a profession. We carry out our duties and missions coolly and calmly; in fact we do not even have to hate the enemy to fight a war. War is very much like a game, and one who loses one's head in a game will also lose the game. On no account must the commanders fail to preconceive and work out a plan for withdrawal, though the planning of such a plan must not be divulged to the men. Not only planned, it must also be carried out resolutely, if a withdrawal becomes necessary, to a good distance, to some tactical features where another stand can be made. Half hearted orders of withdrawal and a running fight will only result in a rout, if not complete annihilation. One must not for the love of fifty yards cause the loss of fifty miles instead, as if for the love of a finger one suffers the loss of a limb.

We shall always remember that a withdrawal or defensive action is only a means to an end; and the end is offensive and victory.

China will soon place six million more men under arms in preparation for three more years of war. The new draft will take men from every walk of life and give China an active and reserve army of 26 million men. Alas, men are not enough in modern warfare!—WILLIAM HILLMAN-BLUE, August, 1942.

G-2 and Reconnaissance Troop Training in New Divisions

By Captain James W. Bellah, G.S.C.

JEROME NAPOLEON, while visiting Union troops during the War between the States, once remarked that he "could now understand how Americans could be so quickly transmuted into soldiers, because they were already half soldiers before they enlisted, through the silent influence and insensible operations of the discipline of our National institutions and surrounding circumstances."

Because all cavalrymen, by the very nature of those ingredients which go into the making of cavalrymen, are half intelligence men before they start specialized intelligence training, most G-2's fall into the casual habit of letting the troop train itself and doing nothing further about it.

In new division training, this won't do—for the simple reason that a new troop won't consist of cavalrymen. There will be a few in the cadre, but that will end it. The rest will be stockbrokers, acrobats, toolmakers, and deputy sharecroppers, with a Ph.D. in education thrown in by the classification officer just to complicate matters. Furthermore, troop training in new divisions won't produce the cavalryman of yesteryear who was half an intelligence man to start with. Therefore the whole job has to be done from scratch and it can't be done by the troop commander alone.. It must be planned and carefully supervised by G-2.

That training should begin at D—75, on the Kansas prairie, when G-2 and the troop commander first meet.

The reconnaissance troop commander is going to be with the Division Headquarters' officers at Leavenworth, during the refresher course for officers of new divisions, but he is going to be young, and nine times out of ten he is going to keep himself decorously in the background of rank. G-2's impulse, especially if he is not a cavalryman himself, will be to let the troop commander go about his own business, after a formal preliminary talk; to admit tacitly that the training of the troop is his problem; and to let him handle it in his own way—until some dark night when he's needed. When that time comes, G-2 will quite probably ask him for the impossible; he'll try to get it—and the troop morning report the next day will be a blank page.

Not, however, if G-2 does his job. And that job begins with taking the troop commander under his wing. The rarified staff atmosphere will be new to him, so at the start of the association, G-2 should pump to him an adequate supply of the rational oxygen of common sense which must earmark all their work together.

G-2 must not only know him and his personal capabilities and limitations as a man, but as time goes on, G-2 must know his lieutenants and sergeants in the same way. And the entire troop must know G-2. (G-2 will ride with them many times, one hopes, during the training time that exists before combat.) Only in this personalized approach, can there be any hope of getting the fullest coördination and coöperation and confidence.

(There will be no attempt in this article to set forth or add to the fundamental tactical principles of motorized reconnaissance. They are established and adequate, and can be left to the troop commander. If G-2 is shy of them himself, a 23-page mimeograph on Vehicular Reconnaissance by Captain (probably now Lt. Col.) Brainard S. Cook of the 8th Reconnaissance Troop, is recommended strongly for its clarity, brevity and conciseness.)

But what G-2 cannot leave to the Troop Commander and to the troop to acquire itself, is the enthusiasm, the ingenuity and the integrity of purpose that will inspire it when each man in it realizes that he is a hand-picked member of the most highly specialized intelligence agency within the division.

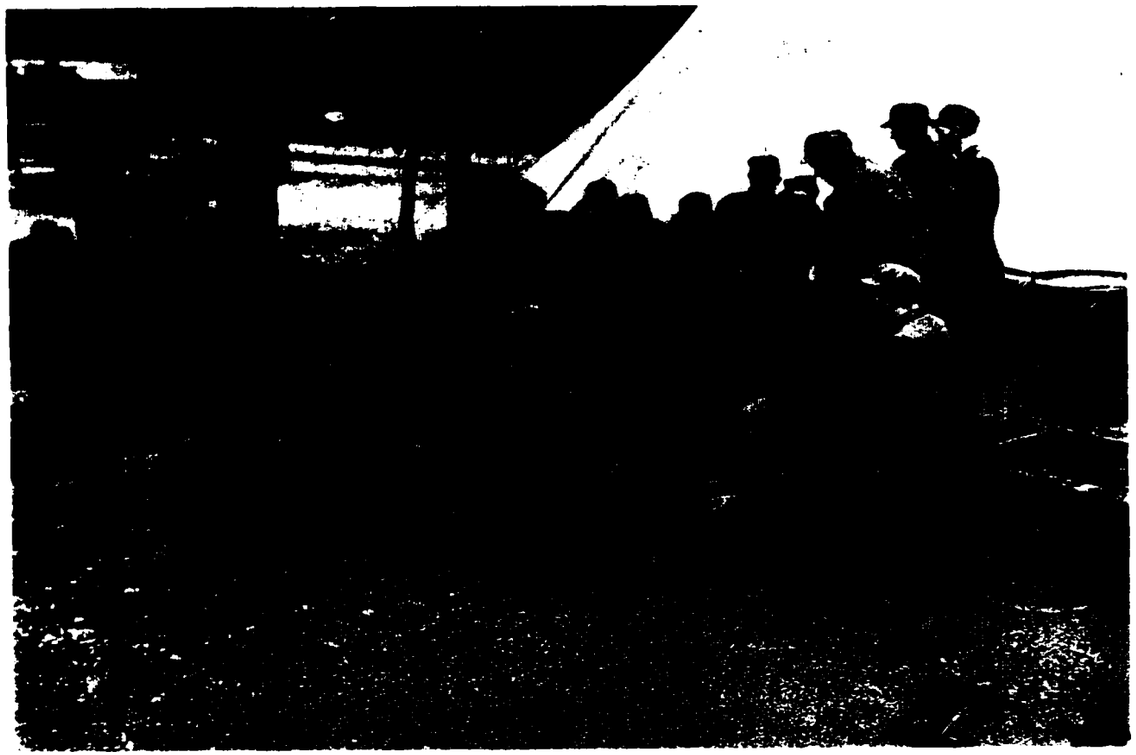
This consciousness must be driven home to the troop at the start and it must be driven home personally by G-2.

Now, all combat intelligence training should begin with an ever-broadening knowledge of our own tactical organization and employment. With an understanding of the tools we work with as a foundation, a familiarity and quick understanding of enemy organization can be built up in each man's mind logically and progressively by means of comparison, when committment is imminent.

(For instance, at the present time in the American Infantry Division, the motorized reconnaissance element is the troop whose training we are discussing. In the German Infantry Division, it is a battalion—easy to remember by comparison. In this German battalion, there is a detachment of horse cavalry—easy to remember by contrast.)

So, then, G-2, in your plans for training the reconnaissance troop, you must, at the start, arrange for the troop commander to broaden the tactical knowledge of the entire troop.

1. Familiarize the troop with infantry tactics, not by lectures or talks, but by observation of and possibly participation (dismounted) in actual problems to the extent deemed necessary. Later, when training has progressed, troop personnel can be temporarily assigned to com-



Damaged material, salvaged from junk yards, is used to give realism to training in this important subject in the 80th Reconnaissance Troops.

pany, battalion and regiment during problems—to acquire a first-hand knowledge of the deep reconnaissance need of infantry, that the troop may better supply them.

2. When the artillery fires, the entire troop should be at the range in small groups, familiarizing itself with the sound of guns, of shells in flight and of bursts. Some tactical knowledge of artillery employment should be given to the Troop also—that it may know what limitations, and capabilities of artillery the enemy has, by later comparison.

3. The troop should be familiar with the mechanics of the Quartermaster supply function, installation of distributing points and dumps—and of the medical evacuation function—as it will fend against the enemy equivalent, and hence must be able to recognize and know and understand the operation of all enemy military functioning. If our own is known and understood in advance, translation of it into terms of the enemy is a simple matter.

4. The troop must know the details of our entire communication system within the division—for the same reason.

5. It must know the function, problems and details of operation of the Engineers.

6. And last, but most important of all, the troop must have extensive work in air-ground operations—especially in the matter of communications between air and ground. The troop must work extensively with observation planes. All officers and senior NCO's should fly enough to know at first hand the difficulties of aerial observation. And all troop radio operators should confer with aerial observers. (Take the radio cars out to the Air Base and work sets side by side on the ground, ironing out bugs. Then let the planes take off and the cars roll—and continue inter-operator, inter-set familiarization; then put the troop operators in the air and the aerial observers in the cars, and you will have little difficulty in future due to personnel ignorance or mechanical unfamiliarity—half your battle in all air-ground work.)

Now those are six rather broad basic items, but if covered in early training, the training is based on a substantial foundation that nothing can shake. The troop commander has neither the authority, the time from his routine duties, nor even perhaps the vision at his age and experience to coördinate them.

It is G-2's job to do it for him—to arrange the joint schedules involved, to coördinate time and place, and to keep his eyes open continually for demonstrations or problems in units *outside of the division*, which will aid in the training of the troop.

All of which is only the beginning.

The continuance must be a short, concise and specialized intelligence school for the entire troop. This school should be planned and personally supervised by G-2.

It may be run in one of two ways, depending upon the coördination the troop commander and G-2 are able to make with the M.T.P.

Either it can be a five day (afternoons only) continuous school, or it can be a piecemeal school, held on a basis of one afternoon at a time over an indefinite period.

This latter method is perhaps better because it keeps G-2 before the troop over a longer period, and if his instruction is dynamic, dramatic and carefully and progressively planned, it cements the personal relation that must exist for the best results.

The mission of the school, however it is held, is to make a crack, top-flight intelligence observer out of every man in the troop.

That begins dismounted. Now, there are many approaches to the training of intelligence personnel. You can throw field manuals at them and let it go at that. You can lecture from the field manuals—and bore them to tears. You can use films—and have them go to sleep on your hands.

No approach, however, is better, more logical or simpler than to start them off by pointing out to them that the function of combat intelligence boils down to three main items.

1. See and hear everything, and interpret everything that you see or hear in the light of what military and tactical experience you have acquired.

2. See and hear so cageily that you live to get back with your information.

3. Be so well qualified in map and terrain work that you can transmit what you have seen and heard—through the channels of intelligence communication—*quickly and accurately*.

Under 1, above, the school G-2 plans should endeavor to show each man in the troop that it is a common American, and especially a city bred, habit to go through life not seeing completely, not hearing entirely, the multitudinous things that do go on about one—that to go into combat with the senses half closed or not registering accurately, will be fatal eventually to the individual and will jeopardize the security of the command the individual is reconnoitering for.

Nothing opens the senses, or makes them register quicker than enemy fire, but there are academic methods that to a certain degree will approximate the same results—and pave the way to receiving that fire and reacting to it intelligently.

All of these academic methods are based on actual

All intelligence training, 80th Infantry Division at Camp Forrest, Tennessee, is based on realism. Here a group is determining maneuver and direction of vehicle movement by tracks of tires.

1st Army maneuvers in the Carolinas. Members of the Reconnaissance Patrol are shown here covering a bend in order to intercept a wary enemy scout.

observation and report, and should begin with as simple an exercise as a display of equipment on a table—or anything else your ingenuity prompts you to devise—a quick glance at the miscellaneous equipment, and a verbal—or better—a written report of what was seen. (This is a variation of the common mental exercise of looking at a picture for one minute and then answering the questions listed on Page 79—"How many automobiles were there?" "What was the nearest town listed on the sign boards?" "Was there a church, a school or a house in the background?" etc.)

It is an exercise, which by its very simplicity, alerts the student to the fact that accurate observation is not easy, until he has trained himself for it. It challenges him to use his eyes and the registration faculty of his brain. If properly carried out, it engenders an impetus within him, to work to overcome the initial shortcomings we all have, for no one is pleased too deeply by the thought that he *doesn't see* what is put before him to see.

A similar simple exercise should be devised for the ear—a series of dissimilar sounds arranged so that the source of them is not visible, and a report required on their sequence. ("Was the whistle blown before or after the shot was fired?" "Did you hear the shout before or after the glass crashed?" etc.)

From simple, stationary exercises, this training must work up quickly to observation at twenty miles an hour or better, from moving vehicles. The Rat Race. Each vehicle has a sub-instructor in it who is capable of keeping up a running fire of questions at the students on what they see, bearing in mind always the military significance of what is seen and remembering that with the Japanese and the Germans, practically everything is turned to its convertible military usage. Examples of questions: "How many commercial trucks did you see in the village we just passed through?" "Civilian motor cars?" "Character of the majority of buildings—stone, frame or brick?" "That convoy that just passed us—number of vehicles? Loads in vehicles?"

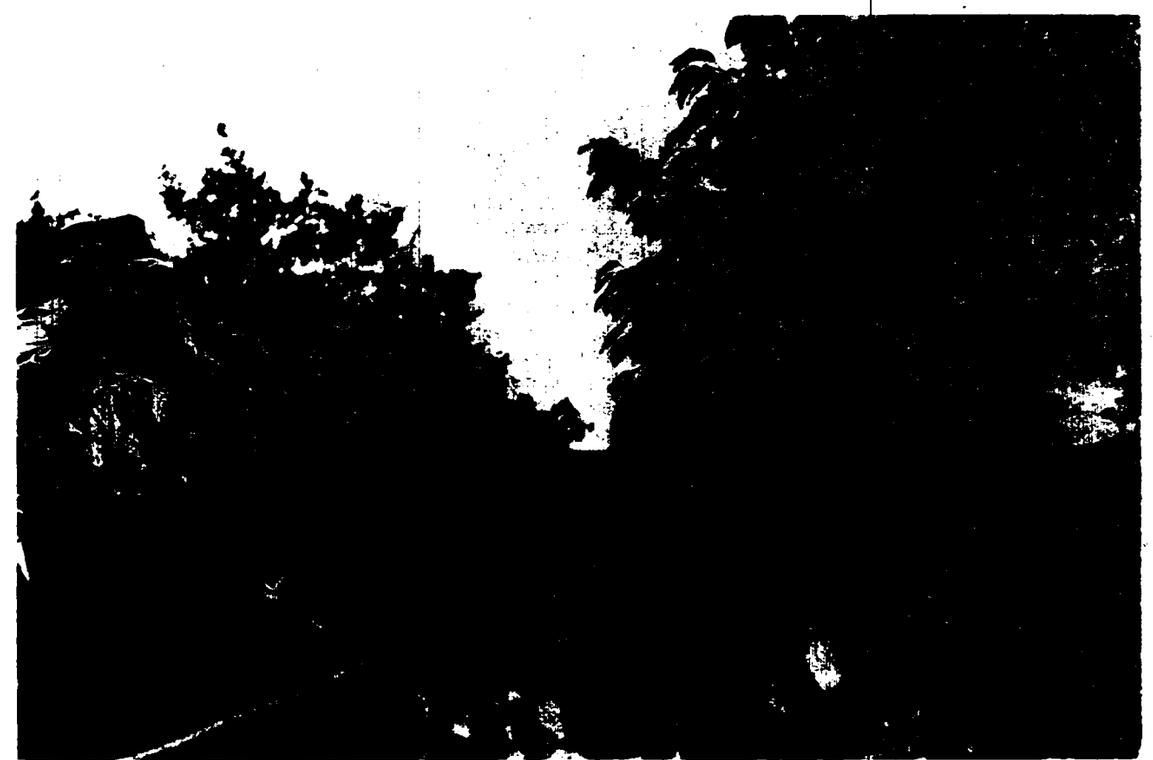
Exercises must be planned for judging the number and capacity of vehicles, parked and moving, at various distances. Distance judging and troop-group judging exercises must be included. (If a competitive spirit can be introduced by dividing the instructional group into two sections and comparing intersectional scores, it will be a great aid to instruction.) Distance judging exercises by night must be run off—on sounds and sights at 100, 500, 1,000, 1,500 and up to 3,000 yards. (The firing of a rifle, accustoming the mind to judge distance by the interval between flash and sound. A laugh. Talk.

The tink of a water bottle top on the bottle. The lighting of a cigarette.)

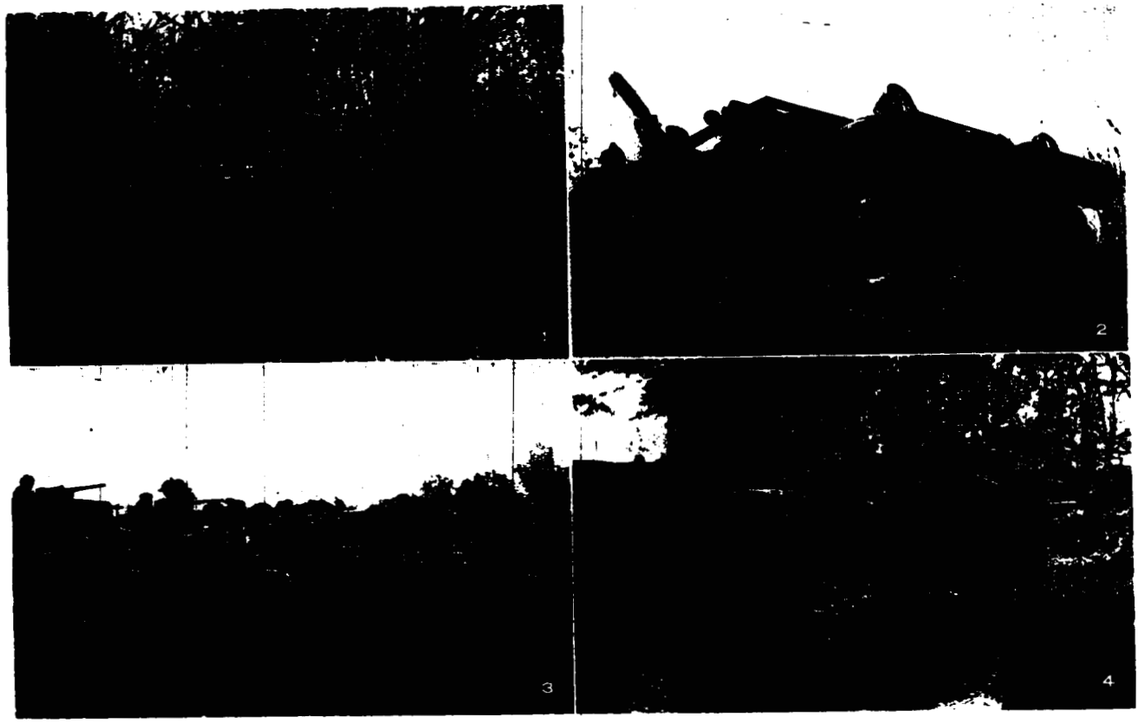
Use your ingenuity in all this observational training, G-2. Arrange laterally with the C.W.S. Officer to combine troop training exercises with chemical training—especially the use of smoke. Do the same with the Engineers when they are engaged in demolition training. Tie the troop into everything that goes on—for eventually the troop will meet everything in the confusion of combat.

Under Item 2 (above) of the breakdown of Intelligence training, General Wavell once said that "the ideal infantryman is a combination of an athlete, a cat burglar and a silent murderer." This goes triple for all intelligence personnel. If you are to be able eventually to "See and hear so cageily that you live to get back with your information," you must revert, by careful training, to all the practical manifestations of the instincts of self-preservation that made it possible for our ancestors and predecessors to take this piece of real estate we live on, from the Indians—for a great deal of Indian fighting technique is used by the German and the Japanese. They have come by it the hard way—through many tough campaigns. You can't come by it entirely by the easy way, for again there is no taskmaster like enemy fire. But you can go a long way to meet it, by careful training. In fact, you can go all of the way by training, except through that final experience that makes men veterans. But the training must be hard, serious, intelligent and if it is, it will always produce more *live* veterans in the end than luck will.

Teach the troop how to walk — *soundlessly* — on all terrain. Set up walking courses. Teach it to crawl, endlessly and soundlessly. Teach it to open windows and doors soundlessly, and to beware the booby trap. See that *all* the troopers can swim. Run exercises in soundless swimming and soundless wading, armpit deep. Instil in each man the necessity for individual camouflage and counterintelligence discipline. Teach them to abhor their own silhouette exposed in any way, to fear the slightest tink of equipment, or the faintest sound of their own movement. By practice and competitive exercise, school them in absolute immobility over progressively longer periods of time—standing, sitting, lying prone. School them to communicate on hand signal and by prior planning—not by talk. Teach them to stifle sneezes. Caution them against the cough—which is a universal adjunct to all campaigns. (The veteran intelligence scout plans always against the ever present throat irritation and chest cold of combat. Cough drops! As simple as that.) Neglect nothing that is simple and fundamental when it pertains to self-preservation.



Members of Troop "D," 107th Cavalry Reconnaissance Regiment, during 2d Army Maneuvers.



1—Concealment. 2—Antiaircraft protection. 3—Troop inspection. 4—Use of stream bed for temporary cover.

("—for loss of a nail a shoe was lost, for loss of a shoe a horse was lost—.")

So much for dismounted training in keeping alive.

In mounted training, use the air eternally as a check on the troop, G-2. Make aerial photography available to it in its early vehicular operations on the terrain, for the purpose of instruction in vehicular camouflage discipline and in the quick taking of cover and concealment. Preach from the beginning and eternally that it is suicide for personnel to take cover from Air in roadside ditches along straight stretches of road—for the straight line of the ditch is an excellent and continuing aiming point for the guns of a low-flying plane. At sharp road bends, that will cause the plane to turn to continue fire, the ditch is possible cover, however.

Run exercises on quick vehicular concealment and dispersion on the approach of air, and let your squadron bomb out troop units with flour sacks for the graphic criticism of sloppy, inadequate measures.

Train drivers in groups of three or five (in close convoy) to pass and repass and break the rhythm. Vary speeds by pre-arrangement to spurt and lag, race and crawl, to break the rhythm. And check all of your exercises and experimentations from the air by your own and troop officer observation, and by photography.

Under Item 3 in the breakdown of all basic Intelligence instruction, which is to "Be so well qualified in map and terrain work that you can transmit what you have seen and heard—through the channels of Intelligence communication—*quickly and accurately*," this G-2 has made a study of instructional methods for map and terrain work (which are one and the same thing in the military sense) and reduced them to simple first principles. The INFANTRY JOURNAL for August carries the result under the title of "How to Read the Ground." Because it is the result of extensive actual work in many troop schools, it is called to the reader's attention.

In general, for the purpose of the new intelligence soldier, teaching of map and terrain work as it is generally carried on is much too involved and gives him a confusing smattering of more information than he needs. He is going to use maps, not *make* them. So teach him only to use them. Never mind polyconic projections, agonic lines or the source of the military grid system—don't enter into involved explanations of cartography. Have this attitude—teach from this approach:

1. There's the sun—that's East (with seasonal variations). Use it by day.

2. Here is a compass needle—pointing generally north (with general and local variations). Use it by day or night.

3. Between them they will give you your first essential of all map and terrain work—*direction*.

4. The second (and last) essential is merely *distance*. (Run it, measure it, or judge it.)

5. This is the terrain—from here to there (point) is a mile. And this is the graphic scale of this map. From here to there (measure) is the same mile.

6. This is how you *read* coördinates (to Hades with the origin or extent of the system)—and explain.

(Any further refinements of this essential knowledge that you care to make by FM or films later, is perfectly in order.) But, for now, after this brief introduction, get out on the terrain in vehicles at 20-25 m.p.h. and teach continual orientation on the fly. Teach distance consciousness at the same time. Run this moving terrain problem as you ran the Rat Race above. Combine them. But get every man in the habit of—

1. Knowing where he is *on the terrain* and *on the map* all the time.

2. Knowing how to describe briefly and accurately where everything he sees is *on the terrain* and *on the map*—in terms *of where he is*.

Examine, by blindfolding half the troop and letting the other half try to lose it. It only takes a short time for a blindfolded man to estimate speed of vehicle by passage of wind on his face or bare arms, and direction by the centrifugal force of turns on his body—or warmth of sun. For continual practice in orientation, the blindfold method is highly recommended.

You are now well on the way to having each man in the troop trained—

1. To look—and *see*. (To listen—and *hear*.)

2. To bring himself back alive.

3. To report quickly and accurately (by map reference to terrain.)

Give them an added measure. As your most specialized reconnaissance agency in the division, they are worthy of every effort. Teach them the elements of military deduction. They are quite simple if kept within bounds. Quite easy to grasp if you sell the idea at the start that you want *no master minds*—just the rudiments of ordinary everyday civilian detective work, which consists mainly of a close knowledge of crime and criminal methods, (your broadening tactical knowledge) close observation and common sense.

A litter course, set up permanently in the troop area and changed every few days by the ingenuity of the men themselves, is one excellent way of training in deduction.

But it must start off with the personal touch as all Intelligence training must, and it must stress the importance of avoiding the broad, far-fetched deduction, and of always being a doubting Thomas in all deduction.

For instance, an abandoned house in a new zone of operations, with a mail box that is full. You sort the mail for postmark dates. There is mail in that box postmarked the 1st, 2nd, 3rd, 4th and 5th of October. Today is the 5th. The occupants have therefore probably been gone five days. (But they may have been gone several days longer than that and not have received mail on the first two or three days after departure.)

Again: A map, a notebook, an envelope marked with a name and an enemy unit does not mean *absolutely* that that unit was present. It merely indicates a possibility that *personnel* of that unit was present.

What you are after in your deduction is the simple matter of time and space—nothing of any great magnitude.

If you are feeling for a retiring enemy in North Africa and you come into an area subsequent to the stiffening desert winds of dawn—and the marks of the quick deployment and dispersal of an enemy detachment are still readable on the sands—then your mind must tell you that that deployment occurred after dawn. (If before dawn, the dawn winds would have obliterated the marks.)

Search then for the cause of the deployment and you will find small bomb craters and casualties from aerial attack. Conclusion: Your air has been in contact since dawn.

Cigarette stubs, food litter, latrines, discarded equipment—all the debris of combat must tell a simple, factual story to the trained intelligence man, and everyone in the Reconnaissance Troop must be that trained intelligence man!

Lastly, the Reconnaissance Troop never rests. Combat has three phases, and the troop must be alert to the development of them, must watch them, even when not active in them, and must read their continuing story as they progress—against that vital moment when the troop goes into its function.

Phase One: Commitment of the command imminent. Distant sound of enemy artillery—final movement of the command for position. Increased supply activity and preparation for evacuation. Harassing enemy air action. No individual personally concerned or involved yet, except in his routine duties of moving up.

Phase Two: The command or a portion thereof under long range artillery fire, and increased enemy air action. Possibility of being hit with no way of returning it.

Phase Three: Combat joined. Individual reception of fire but with the ability to return it with your own individual weapons.

At any point in any phase, the reconnaissance troop may be called upon to act—but all through the development, the troop must be thoroughly alert *to* that development, every man must sense it, feel it, study it as a player on the sidelines watches, knows and feels every nuance of the game—so that when the moment to go in arrives, the troop goes into its own specialized function —*at the gallop*.

The Officer and His Men*

"The first responsibility of the officer is not merely to train and to lead his men, but to know them."

THE object of all training is to turn a man into a soldier. The observations that follow on the subject of the "care of men" are not offered out of particular solicitude for the man's soul, feet, or stomach; nor are they presented with the vague intention of "helping an officer with his work." They are written solely and specifically to enable an officer to see that his men are fit and competent to play their part on a modern battlefield. There is here no question of "pampering the soldier." For the officer the only question at issue is, "How do I ensure that my men shall give of their best in battle?" No officer can afford to overlook the stark fact that at the end of all training is the battlefield. The final test of his work is only to be discovered on the battlefield.

"Care of Men"

"Care of Men" is a necessary foundation of all successful training. The man who is discontented and unwilling to learn takes longer to train, and can never reach a satisfactory standard of training.

A reasonable degree of receptivity on the part of the pupil is indispensable to every instructor. This receptivity on the part of the man must be largely influenced by the personal factors affecting his private life. These personal factors thus become of basic importance in his military career; and an officer's responsibility begins at this foundational point. At no hour of the day or night is he absolved from this responsibility: the Army does not put up the shutters or close the office door at half-past five. In civil life a manager or foreman is responsible for his staff or his "gang" for some seven or eight hours of the day. The officer is responsible for his men for twenty-four hours each and every day.

Two thousand five hundred years ago, one of the great commanders of history told his junior officers that their first duty was to see that their men were "happy": the rest would follow. The soldier of to-day may have been invested with weapons the ancients never knew; but he remains a man—and not merely an automaton rigged out in battle dress.

The "Mental Background"

The first responsibility of the officer is not merely to train and to lead his men, *but to know them*. Although he may know every training manual off by heart, if he cannot claim to know his men he fails as an officer. He must elucidate for himself their mental background. He must find out what they are thinking, and what are their worries. The officer who visits his men at meal times and calls out "Any complaints?" is merely asking for the almost inevitable response—a response as meaningless and automatic as the question itself.

An officer who is really doing his job will look for himself, and check up. Men will show a queer loyalty even to an unsatisfactory officer; they will rarely complain over his head to a senior officer. The intelligent officer will ask: "Are the dinners good to-day?" "Are the potatoes better than they were yesterday?"—and ring the obvious variations. If he puts parrot questions he must expect parrot answers.

If a complaint should be forthcoming on any topic whatsoever, he should never regard it as frivolous—unless it happens to be nothing more than good-humored grousing. No complaint can be entirely frivolous if it is put forward in all seriousness. If there is nothing in the complaint itself, the indication is that the man's mental background is at fault—and this is his officer's responsibility. It is perfectly well realized that an officer can only hope to penetrate this mental background through imaginative sympathy and an understanding of human nature, and that these qualities of the mind cannot be acquired as a result of some external injunction. Nevertheless, they are likely to be developed unconsciously, if the officer continually addresses his mind to the simple question, "What little thing more can I do for my men?" . . .

There is no surer way for an officer to get to know his men than to take part in their games and to assist in their organization. His platoon or his company, instead of taking on the complexion of a solid wad of raw humanity, will become a collection of individuals, a knowledge of whose characters will stand him in good stead under the supreme test of battle. It may further be noted that one unquestioned lesson of war is that regular healthy recreation for all men, in camp and, when possible, in the field, is as essential a part of the soldier's profession as his routine training.

The Officer's "Military Background"

The complement to the man's "mental background" must be the officer's military background. It is a quality of the mind he can never hope to acquire until he stops thinking of himself as a civilian. Both on and off parade he must remember that the uniform he wears indicates an assumption of responsibility far in excess of his former civilian responsibilities—whatever their nature. In war he is responsible not only for the welfare but for the lives of his men. He must get to "know the Army" and to think in terms of the Army.

To "know the Army" is a condition of spiritual awareness of a great comradeship that can come only as a result of intimacy and experience; but to "think in terms of the Army" is largely a matter of taking thought. In civilian life in an industrialized country the civilian is asked to do less and less thinking for himself; he is rarely flung back on his own qualities of initiative and resourcefulness; the conveniences and luxuries of life are "laid on": one turns a tap or puts the money on the counter. Life in the Army, under active service conditions, represents something in the nature of a reversion to a past age. The individual is largely thrown back upon his own resources; and although these resources may be forthcoming from the administrative services, it is still the responsibility of the individual to see that they are used to the best advantage.

The rations may be the same along the length of the line; *but the dinners will vary according to the trouble that has been taken over them*; and the wise officer will recollect that in war, a hot meal before going into action represents a reinforcement of morale out of all proportion to the trouble and ingenuity its preparation demands.

In civilian life the art of improvisation is rarely imposed on the individual; in the Army the officer must regard it as a matter of course.

If his men are wet through and the billets destitute of any form of heating, and if there is coal or wood anywhere within transportable distance, he will not settle down to his own dinner until the men's clothes are being dried and the billets warmed: nor, if their stay in them is to be prolonged, will he be satisfied with these billets until he has contrived to introduce as many small comforts as possible.

The art of improvisation needs to be exercised to the full under really difficult conditions; and in these days of air warfare, when communications and supplies are likely to be interrupted to a degree never experienced in the last war, the officer can never be certain that he will not suddenly be thrown back upon his own resources of ingenuity and determination.

It will be apparent from these observations that an officer who moves about his work with this military background to his day by day activities is asked to assume a habit of thought that may become second nature to him.

Coöperation With Civilians

When an officer is called upon to improvise the essential comforts of life for his men, he will almost certainly find it necessary to secure civilian coöperation. He need not doubt that this civilian coöperation will be readily available if he shows tact and consideration in his requests.

He must not wait for his men to show the necessary initiative. It is unquestionable that the average soldier displays a curious diffidence about approaching local inhabitants for such assistance as they might easily render.

His uniform puts him in a race apart from the general run of civilian life; and if he belongs to some isolated detachment he will sometimes prefer to go without some small thing rather than knock at some civilian door.

The officer must intervene on his behalf. An officer's uniform should not be necessary to secure such obvious amenities for his troops; but the fact remains that it works like a charm, and the officer should not hesitate to exercise it on behalf of his men.

In all such dealings with local inhabitants the officer must remember that his own attitude, and the behavior of his troops, will directly influence the reception accorded his successors. This warning has special reference to the condition in which the houses are left. It should be a point of honor and decency to leave them clean.

Finally, when times are bad, and it is beyond the powers of improvisation of any officer to relieve them—if, for example, a detachment is stranded during a move through some vagary of the weather—it must be understood that the officer sticks it out with his men.

Health of Troops

If his men keep going sick *it is the duty of the officer to find out why*. More often than not a man who goes sick represents a bad mark against his own administration. If there appears to be something fundamentally wrong with a man's health he should see that the M.O. takes appropriate action. A persistently sick man is merely a drag on the work of the battalion and a waste of his instructors' time. Even in an age of motorized and mechanized warfare a soldier must be prepared to use his feet; he must have teeth that will stand up to hard fare, and a body proof against hardship and spells of privation. If his men fail to take the strain, the trouble will have dated back to a period when the officer failed to look to the future.

On the other hand, if the officer watches the men's feet, the water they drink, the food they eat, the clothes they wear, and if there are any little luxuries to be obtained within fifty miles of the Battalion Headquarters, the Quartermaster chases after them, the men of the Battalion will never let the officers down.

They will go into action in the spirit of "We have the finest lot of officers in the world and nothing is going to stop us."

"Brains on the Job"

If a man is fit and contented, an officer should have little difficulty with the problems of training; but behind all the regular routine of training he should remember that he has the general duty of seeing that his men bring their brains to bear on the work to which he puts them. It is not enough that they should not be bored—and the first yawn should be regarded by the officer as a devastating criticism of his powers of exposition. He must train them to use their eyes by constantly questioning them on any points of detail with

*Issued by the Curragh Command, H.Q. Staff. Courtesy, *An Cosantóir*, Eire.

which they should have become acquainted during an exercise; he must crack down on those who dawdle on a skyline; he must deliver fearful warnings to those who meander across an imaginary battleground. He will do well to remember that, in the last war, the constant cry of "Get down, get down!" was in itself an indictment of the officers who uttered it; and if any of his men show a reluctance to move on their bellies during training he should make them realize that their chances of survival on a modern battlefield will be so slight that their presence will merely serve to encumber the work of the medical and burial services.

He should also remind himself that, in this war, every soldier is likely to be called upon to acquire something of the deftness and the adaptability of a night bird, and that a townsman will find himself at a serious disadvantage if his training is not modified accordingly.

An officer should ensure that his men are given all possible information to take an intelligent interest in the general situation—whether on an imaginary battlefield or under actual war conditions.

The man who, in war, is utterly taken by surprise and rendered incapable of instant action, is subject to the worst of all fears—fear of the unknown. A man who recognizes a bomb attack before the bomb bursts has already half mastered the situation.

Thus, it may be said, that it is an officer's responsibility during training not merely to fit his men for their work on the battlefield, but to ensure that they shall stand a chance of survival, and live to fight another day. In the average battle with imperfectly trained troops only a small proportion of the casualties can be directly credited to the enemy.

Discipline and Punishments

"Care of men" must not be confused with loving-kindness. The officer must discover for himself the border line between considerate treatment and iron discipline. Without discipline a collection of individuals remains nothing more than a collection of individuals, and useless in war as a fighting weapon. No man can succeed as an officer unless his men jump to his least word of command. It must be admitted that such power of command is largely a matter of personality. Nevertheless, any officer who endeavors to put into practice the precepts contained in the foregoing paragraphs will have established between himself and his men a subtle bond that will hold even under the strain of battle; he will be able to count upon them to respond to his will.

Will power is a quality of the mind that an officer can cultivate only by a stern resolve to do his job and to keep his head in an emergency; but the test will be immeasurably less severe if he is conscious that his men are all out to help him.

It should further be noted that discipline which depends for its maintenance on punishments is not discipline—that is, the training of the mental, moral, and physical powers by instruction and exercise—but a cowed state of submission to authority. Such "discipline" will assuredly crack under the test of battle. The first-rate officer will have but little recourse to punishments. The cause of any punishment must inevitably be a symptom of something wrong in the body of troops under his command; and if he is ceaselessly investigating the men's "mental background," no symptom is likely to take him unawares. In particular, the first-rate officer will avoid petty punishments. If he has to punish, he should punish hard—after fair warning. He should himself conform to the high standard of discipline he sets for his men. When he returns a salute he should use his hand and not his stick; and if he has a cigarette in his mouth he should first remove it.

Morale

Every point of conduct discussed in the preceding paragraphs is ultimately directed to the question of morale. Good morale is the first of the soldierly qualities—as it has always proved to be the final arbitrament in war.

To the extent that the points discussed can be reduced to a simple everyday routine on the part of the officer, and the constant and patient exercise of quite ordinary virtues, morale can be instilled into fighting troops; and any officer whose work helps to sustain morale makes a direct contribution to fighting efficiency.

Alternatively, any lack or failure of morale is equally his responsibility. The essential characteristics of the Irish race have suffered neither diminution nor change during the past twenty years; and every officer may take it that, if things go wrong, whether it be in a platoon or in some high formation, the fault is with the officers of that platoon or formation, and not with the men.

The officer has all the advantages of education and environment; even in the heart of a campaign he is enabled to enjoy more than a few of the amenities of civilized life: by comparison, the private soldier has to rough it and just stick it out, whatever the minor amenities his officers have been able to secure for him. The officer who is worthy of his rank will never blame his men for any deficiencies in his command.

Finally, it may be observed that local inadequacy of equipment provides no excuse for any failure to implement the advice urgently offered in these paragraphs to those junior officers who today find themselves immediately responsible for the well-being, the training, and the fortunes in war of the Army.

It is in difficult times that great nations, like great men, develop all the energy of their characters.—NAPOLEON BONAPARTE.

Cavalry in the Cuban Army

Its Organization and Distribution in the National Territory

By Captain Camilo G. Charez, Cuban Army

THE Army of the Republic of Cuba has the double function of defending the national territory against all foreign or domestic enemies, and maintaining a certain degree of vigilance in the nature of police work in rural sections. The latter function has been assigned to the Cavalry, which is divided into two entirely different classes—*Tactical Squadron Cavalry (Caballería Tercio Táctico)* and *Rural Guard Cavalry (Caballería Guardia Rural)*.

As a result of the experience acquired in our Wars of Independence and the military actions into which we have seen ourselves forced during the Republic, and because of the topography of our territory and the limited means of communication which the island has, it is believed that cavalry is the best arm for carrying out the mission which has been assigned to our Army.

Tactical Squadron Cavalry

This part of the cavalry is made up of Tactical Squadrons, (*Tercios Tácticos*), the largest organization found in this arm; the term "Tercio" is equivalent to the term "Squadron" in the United States of America, although there are some differences, as we shall see below.

The principal functions of the Tactical Squadrons are those appropriate to cavalry. They can be enumerated as follows, according to their importance in our army:

Offense
Pursuit
Reconnaissance
Security
Defense

Organization of the Tactical Unit

Commander (Major)
Headquarters Detachment (*Plana Mayor*)
  Adjutant
  Supply Officer (*Ctel. Mtre.*) (First Lieutenant)

The Commanding Officer of the Tactical Squadron exercises command through the two assistants with which he is provided in his staff (Adjutant and Supply Officer); they in their turn are provided with the personnel of the headquarters' detachment for administrative and supervisory functions.

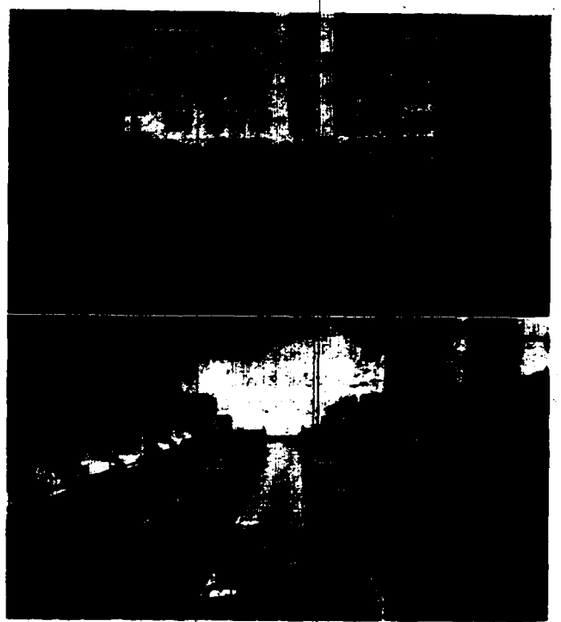
The First Lieutenant Adjutant is in charge of the Personnel and Plans and Training Section of the Squadron, and in the exercise of his duties makes use of the personnel listed above.

The First Lieutenant Supply Officer is in charge of supplies for the Squadron, and also everything that concerns administrative and transport matters; he is the Commanding Officer of the pack-transport platoon which is part of the headquarters detachment of the squadron.

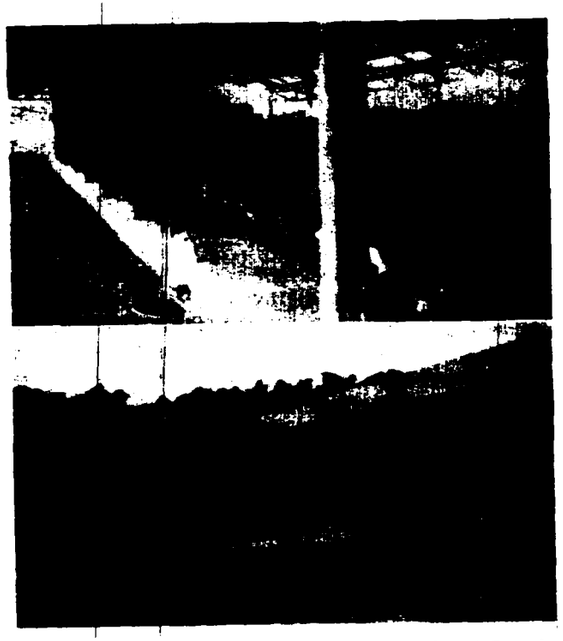
If the Squadron is to be transported by rail, or if trucks are attached to the squadron for its transportation or supply, the First Lieutenant Supply Officer is charged with these duties.

Inasmuch as the Tactical Squadrons are attached to the Regiments (the island is divided into regimental areas), the latter attach medical and veterinary services to the Tactical Squadrons whenever these go out on manoeuvres or combat, and in these instances these services are under the immediate orders of the Commander of the Squadron. While in garrison, these services are rendered by the Regiment.

Communications in the army are under the control of the Signal Corps. When the squadrons, or the troops of which they are composed, go on manoeuvres or to war, this service is rendered by the Signal Corps, which provides the necessary radio equipment and operators. The equipment is transported by pack, mule or horse, supplied by the Signal Corps.



Top: Currycombing horses in picketing post. *Bottom:* Barracks, Rural Guard Troop.



Top: Stable, Cavalry Troop. *Bottom:* Two Rural Guards leaving the post on a patrol trip.

COMBAT UNITS OF THE SQUADRON

In addition to their headquarters' detachments, the Squadrons are provided with combat subdivisions, which are:

3 Rifle Troops (*Escuadrones*)
1 Machine Gun Platoon

ORGANIZATION OF THE TROOPS

Commander
Headquarters Detachment
3 Rifle Platoons of 3 Squads each (First Lieutenant is in command of the First Platoon, Second Lieutenants in command of the other platoons; each platoon has a Platoon Sergeant and a Messenger Private).

ORGANIZATION OF THE MACHINE GUN PLATOON

Commander (First Lieutenant)
Headquarters Detachment
3 Sections Browning Machine Guns cal. .30 (heavy)

The Tactical Squadrons have great strategic and tactical mobility as well as sufficient fire-power to carry out effectively any mission which may be entrusted to them, on any terrain or under any weather conditions.

RURAL GUARD CAVALRY

This part of our cavalry is organized into Rural Guard Troops. The organization is similar to that of the Rifle Troops of the Tactical Squadrons, but its principal function is policing the rural sections. The equipment is the same. Rural Guard Troops are distributed in territorial divisions in small garrisons, which, in general terms, are as follows:

Each troop is assigned a section divided into three districts (*tenecias*), one to each of the three platoons composing the troop. These platoon districts have their personnel distributed in small garrisons which are called Rural Guard Posts (*Puestos de la Guardia Rural*), which in their turn have their small divisions under their custody.

Troop Headquarters of the Rural Guard (*Capitanias de la Guardia Rural*) are generally located in the principal town of important municipal territories, or in industrial localities, generally those producing sugar. The Platoon Headquarters are located in important industrial areas assigned to the troop. The Rural Guard Posts of the Platoon Districts are further within the agricultural localities.

The troops of the Rural Guard receive military as well as police instruction. In cases of emergency they concentrate and form complete cavalry units.

As part of their police functions the Rural Guard sends out daily pairs of soldiers who traverse the agricultural locality in the same manner as the Royal Mounted Police of Canada.

If within the division assigned to a troop of the Rural Guard there are highway districts, that troop has also a motorcycle section for guarding these roads and especially the main highway.

In the Cavalry, organized and stationed throughout the national territory in the manner described, a powerful weapon is available for counteracting and combating the type of warfare that at the present time is the most probable in Cuba, namely, guerilla warfare. The cavalry troops of the Rural Guard protect the entire national territory against small groups that may rise up, and the large Tactical Squadrons, because of their great mobility and fire power, are available to strike at the opportune moment and at the proper place.

The Mental Quotient
In Staff Selection

By Major L. B. C. Jones, U.S.A. (Ret.)

IN our system of trial-and-error selection of staff officers, is the most important factor of the individual too often submerged? Is the mental quotient or mental potentiality of the one selected too often overlooked or ignored? An officer may have experience, energy, bravery, will-to-do, loyalty, devotion-to-duty, honor—every characteristic that makes for an admirable man—but if he lacks high mental potentiality, he cannot ever be a great staff officer, and much less a great leader of men; whereas, an officer, less-high in the aforementioned characteristics who has a genius mental aptitude in the field of planning and leading, may well be superb in his attainments. To the person who would state that planning and consequent leadership may be grounded in the list of characteristics, we would answer, "As examples of character only, but in actual military leadership—no!"

As one observes the tremendous War Department effort to attain a physical-high through a definitely weak, one-track solution, e.g. *age*, he may well be astounded that there is no parallel effort to attain as high a mental selection for key positions. This undoubtedly could be accomplished through a staff-aptitude test which would give a basic mental cross-section of each individual officer. Through a bit of experimentation, or through an acceptance of academic findings, a staff-low could be set. No officer falling below this limit, no matter how admirable his other characteristics, would be or should be selected for staff work; those of a mental potentiality in a superior bracket and now occupying routine positions would be routed to planning jobs.

Nothing in the above statement takes away from the admirable characteristics enumerated, nor do we accept the premise that a man may be truly great without these characteristics. Nevertheless, realistically, the less admirable man may be the greater leader. Mediocre mentalities usually can never lead in the true sense of the word for such minds never rise to creative distinction. Initiative without creative ability merely spells disaster, for it is invariably undue effort in a mental vacuum—an explosion without direction. History is filled with the fanatical obsessions of the mediocre mind pushing humanity to the brink of chaos; whereas, civilization—or culture as we know it—would not exist if it were not for a handful of zealous geniuses so often overlooked or martyred during their lifetime and yet giving us our prime objectives in life.

Mental measurements have passed the experimental stage and are not only accepted by all universities but also by many business concerns. The results have been carefully scrutinized and tabulated. Said tabulation proves conclusively, other elements not being too divergent, that one's chance of success is in proportion to his mental graph. On the other hand, one has a perfect right to look askance at any "school selection" system. Though statistics prove that a mental giant will most probably succeed in school effort, if he subconsciously sees through the weakness of the instruction or the inadequacy of the end, he may not "put out"; whereas, the mediocre individual, subconsciously appreciating his mental handicap and blind to either means or end, will quite often attain fair "marks" by untold or out-of-proportion effort. Efficiency reports most often reflect only the means and not the end; e.g., the loyal, dogged effort. The mediocre fellow's efficiency reports over a 20-year period, therefore, may add up to more than that of the brilliant fellow's. As a result of this, such an officer may be selected as a war leader without regard to a possible lower mental quotient that makes him incapable of creating and planning the brilliant strategy necessary to win a campaign.

Efficiency reports are also not truly indicative as they are not coldly mechanical but rather subtend the human equation with its foibles, short-comings, emotions, defenses, and responses. The net result is that we see persons actually questionably satisfactory marked "superior" and vice versa. Not only that but inter-arms jealousies, competitions, and pettiness result in questionable tabulations; e.g., the proportionate number of officers selected to attend the Command and General Staff schools reflect on the efficiency of the particular arm or branch from which selected. This has naturally an inflationary tendency in efficiency reports. This poses the question as to whether there may possibly be staff officers who have many admirable characteristics—men worthy of honor—but whose IQ's would undoubtedly be too low to be accepted as so-called "school material"; and whose planning, through these limitations, may result in failure. A proper aptitude test would not necessarily take up staff work or military problems, but would merely put a psychological yard-stick on the individual's powers of logic, analysis, observation, etc.; the time-element involved placing a measurement on innate alertness. There is nothing in military planning too

deep for a Caesar-brain. Caesar began his military career when past forty.

It is readily admitted that there is no psychological measuring apparatus for the total man. This we might break down in many different ways, for instance:

1. Physical-power-to-do
2. Mental concept
3. Will-to-do
4. Mental balance
5. The intangible, indefinable element of control of one's fellow being.

Nevertheless, it is worth pointing out that with a plus in all but "mental concept" the planning would be mediocre and the chance of success limited; whereas, with a minus in some, but an off-setting plus in "mental concept" success is at least within the realm of possibility. Perhaps it is well to call to mind again that Caesar was epileptic, Napoleon suffered from severe organic disturbances, Timur was lame, Andrew Jackson was almost an egomaniac, Alexander was often carried away by uncontrollable passions, etc.

Despite the lay view to the contrary, wars are not won so much by millions of armed fighters and the maximum tonnage of mechanized equipment, as through the genius and leadership of probably one man—one person able to project his mind, conceive, create in the realm of military conception, lift his soldiers to belief and confidence, and then put his theory into practice. The actual history of warfare, however, is, by and large, a repetitive chronicle of colossal blundering until the imaginative reader is transfixed and appalled. One author has remarked, (wrongly, let us hope): "He was quick to show contempt for stupidity and carelessness—which infuriates most soldiers, who by nature are both stupid and careless." And the "he", so referred to was a soldier in whom the author saw the element of genius on which we are insisting.

One lesson which any General Staff should learn quickly—is fairly well couched by Emerson in his "Return to the Essential Man" in a transcendental grasping of the whole. Any thinking that begins without roots and ends in the theoretic is doomed by the veritable laws of chance. In this sense, without a Hannibal there could never have been the Hannibalic campaigns in Italy, without a Caesar no conquest of Gaul, without a Napoleon, no conquering herald of the French Revolution. The genius of a Washington or a Jackson was not the outgrowth of any military system or military policy of peace-time soldiering and erroneous peace-efficiency theories; actually both Grant and Sherman parted company with a military system that they were too acute to accept.

In fact, history offers us no more than a dozen or so generals of high importance, and yet we are fairly confident that scores of Napoleons and Hannibals have eked out their years as grizzled junior officers or resigned rather than bear the pomposity of ineptitude which may become the overseer of an inelastic military system of "policy."

The point of this paper is not destructive criticism but the belief that we have a means at hand to correct an age-old weakness—a means to return to the essence of "the essential man" in our search for leadership. In this new Army we probably have a half dozen mental giants capable of great leadership. Also there is probably a relative handful possessing enough innate talent to appreciate and bring into being their plans; we might call them the Marshal Neys. Time and defeat will probably not await a trial-and-error search such as discovered Grant and Sherman. Therefore, a 30-minute "aptitude" test may well be somewhat indicative of the few hundred who actually represent our best pool of military value of the immediate future and a means to circumvent years of fumbling.

Intellect and education play a more prominent part in war than stamina and courage. . . . In all ages the power of intellect has asserted itself in war. It was not courage and experience only that made Hannibal, Alexander, and Cæsar the greatest names of antiquity. Napoleon, Wellington and the Archduke Charles were certainly the best educated soldiers of their time; while Lee, Jackson, and Sherman probably knew more of war before they made it than anyone else in the United States.—HENDERSON.

R.O.T.C. Graduates at the Cavalry School

*By Lieutenants W. S. McCauley and R. M. Vance, Cavalry**

THE current group of student officers at The Cavalry School, the Ninth Basic Horse and Mechanized Cavalry Class, is the largest single group ever to matriculate. The class, which numbers 299 members, represents every institution of which a Cavalry R.O.T.C. unit is a part, as well as the United States Military Academy at West Point. Formidable delegations from the Virginia Military Institute, Norwich University, Texas A. and M., the University of Arizona, New Mexico Military Institute, the University of Georgia, and Massachusetts State College make up a large percentage of the class with the roll being completed by representatives from the University of Illinois, Michigan State College, Culver, Valley Forge Military Academy, Pennsylvania Military College, and Oklahoma Military Academy.

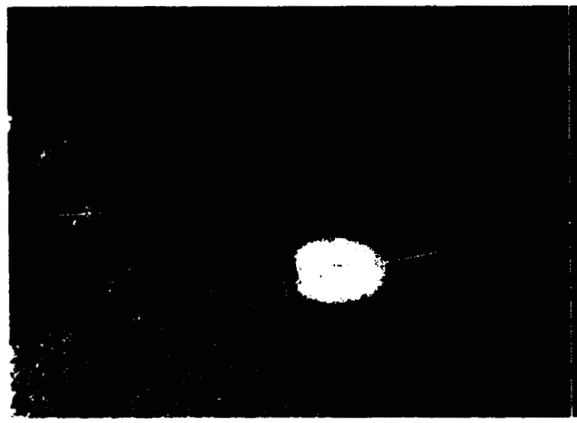
The arrival of the Ninth Basic Horse and Mechanized Cavalry Class at the school was an innovation. Effective this summer, the six-weeks camp for R.O.T.C. students was discontinued. In its stead these students have been absorbed in the Basic Course at Riley. They will no longer receive their commissions upon graduation from the various colleges and universities affording this training, but they will be sent immediately to The Cavalry School for the regular three-months' course, upon the successful completion of which they will receive their gold bars. The present class, containing every cavalry reserve officer who received his commission this spring, is the last class which newly graduated R.O.T.C. students will attend as commissioned officers. The status of future students in such classes will be analagous to the rank of cadet, which they held while attending the R.O.T.C. course in college.

For instructional purposes, the present class is divided into three groups, all of which are approximately equal in strength. Troops "A" and "B" are classified as mechanized; Troop "C" is the horse unit. The difference in the training of the two types of units is not great. The mechanized groups receive instruction in motors and related tactics while the other group receives more detailed instruction in horsemanship and its associated subjects. This, however, does not mean that there is much distinction between the officers of these two types of units. *All are cavalrymen.* Both groups study tactics, weapons, and other subjects related to both types of cavalry. Both are trying to master in particular the art of reconnaissance—one of modern warfare's most exacting and difficult missions and probably the primary mission of cavalry in World War II.

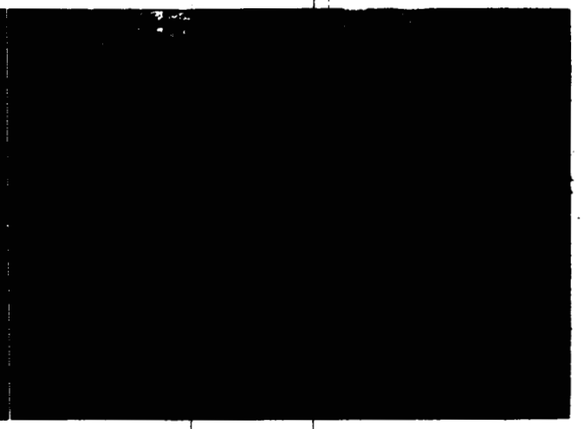
Upon completion of the course, the officers who undertook a more detailed study of motors will have just as good an opportunity to go with a horse unit as will those officers of the horse group, and vice versa. Today's student knows that the cavalryman must be prepared to do both types of duty, since it has already been shown that certain conditions demand mechanization, while others require the horse.

Despite the War Department emphasis placed on mechanization, since the present Basic Class is on a 2-1

*Ninth Basic Class.



Night firing: Great emphasis is laid on this phase as is required by modern warfare.



Motors: This instruction is given to small groups, so that the individuals may have a greater opportunity.

ratio, there is hardly a single student who does not possess a true love for the horse. It is not the attitude of these new officers that "the old order changeth." They know better. With the present conflict calling for stress on mechanized cavalry at this time, these young cavalrymen want to be prepared. Nevertheless, each one is anxiously awaiting the day when conditions will require large units of horse cavalry. Each one feels sure that this day will come. Living up to the age-old cavalry standards of far-sightedness, he is determined to be prepared for every contingency.

Other than motors instruction and horsemanship, there is little difference in the curricula of the two groups. As has been stated, reconnaissance is being given its due share of attention—with interest. The class is given a three-weeks course in cavalry weapons, which includes instruction in the newer weapons, a course to which the school may point with pride, as one of the outstanding of its kind offered in any service school. Courses are also given in the various phases of troop administration; technique of instruction; mapping; communications; command, staff, and logistics; and the many branches of tactics.

Although recent graduates of R.O.T.C. schools comprise over seventy per cent of the Basic Class, membership in the class is by no means confined to this group. As in the past eight classes, officers from the Cavalry Replacement Training Center and several tactical organizations are attending the course. There are also two other groups, organized as platoons, which function under the same administrative organization as do the Basic students. One group is enrolled in an Advanced Communications Course; the other in an Advanced Motors Course.

The present set-up at The Cavalry School is a far cry from the days of the old Troop Officers' Course which extended over a period of nine months. None of the extras which made the old course so colorful are present today. War has demanded that nine months' work be concentrated into three months. A seemingly impossible task, this has been accomplished with amazing success. With this in mind, the course is not easy. It is not designed, however, for persons who like an easy life. The hours are long and study arduous. Nevertheless, none of this appears to discourage these new cavalrymen who are eager for action.

RIVER CROSSINGS

1—Swimming Horses. 2—Swimming Jeeps. 3—Motor Communications. 4—Horse Communications.

Tin-Can Cowboys

*By Richard Gordon McCloskey**

"YEA, I know you guys," said Sergeant Gassanoyle, and he didn't look very happy over the honor. "When you learn to handle a jeep or a half-ton you think you can drive anything. Graduate—yea, I said *graduate*—to tanks and because they look tough you think you can treat 'em tough. Warn't it David that said, 'The bigger they are, the harder they fall,' and let fly with his slingshot?

"Tanks'll take it OK, but not like jeeps. F'rinstance, Mayerling here thought he knew all about tank driving before I taught him different. A tin-can cowboy if I ever seen one. Tooled that there wreck what was a tank up a hill and took off as he hit the crest, just like they do in the pitchers. Them artist guys had ought to be tried for drawin' them pitchers of jeeps in the air. They give morons like you wrong ideas. Mayerling made a four-point landing, yea—his butt, the two gunners' and the commander's. A beautiful wallop. Looked good, but what it did to his innards—and the tank's—called for a couple fourth echelon jobs. The nurse may have liked working on your frame, Mayerling, but what I heard Miller say about working on that crumpled tank reminded me a leetle o' Pap and jack mule. . . .

"Mayerling may get away with it once, but from now on something new is going to be added to you guys. Some brains. You're driving these cans *my* way. And what's my way? Well, I was comin' to that, Jacobs, but thanks for bein' interested. . . .

"When you're going up hill, shift way down into the growler so you're sure of reaching the top without having to shift again. Aim at a tree or something on top of the hill and start climbing. Keep climbin' straight up just as you would in a truck. But here's the difference:

"When you hit the top, the nose climbs up into the air until the hill catches that can right in the guts, and then if you don't ease it over the balance point, the nose wallops down like a sack o' nails. Here's the secret of the happy landing:

"Just before the tank balances on the top of the crest, let out the clutch, *keep your foot on the accelerator* and haul back on both steering levers to slow 'er. Then slip the clutch in an' out just enough to keep 'er rolling and ease her over the crest. Down she comes as nice as you like with nary a jar.

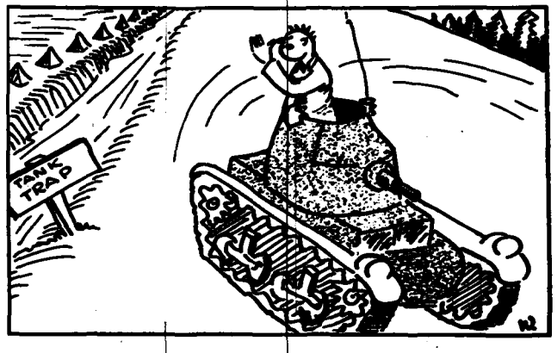
"Keep your foot on the gas, O'Hanlon, because if you don't, the engine is gonna strain and stall when you let in the clutch to heave up over the crest. I know it's tough on the clutch, but there ain't no way else to do it except shift down—lettin' go of one of the steering levers to do it—or restart the engine, and neither of them methods is no joke on a hill.

"Going down is the same idea. Ease the can over the balance point after shifting into a gear plenty low enough for the grade. Keep away from the brakes as much as you can and let the engine friction do the work of slowing you down.

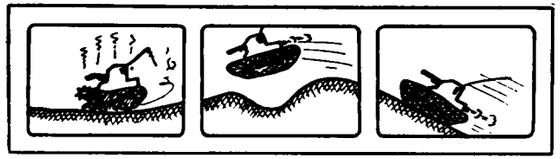
"Say, when you're half way down, somethin' pops up in front of you that calls for a quick stop. Decelerate, slam the clutch to the bottom and shift into neutral *after* stoppin' . . . I said *after* stopping, Jacobs, 'cause it takes *two* hands to haul back on the brakes, and if you take one to shift into neutral, the tank curls around like a screwball and tries to have a one-tank collision. And you know what sudden turns do to the tracks. Yep, that's right . . . they sail through the air with the greatest of ease.

"In a truck—which is all you cowboys know about—you can haul the steering wheel hard a starboard and leave it there while the truck goes around in circles until it's as dizzy as you always are—but you can't in a tank. The steering brakes and the brake linings get hotter than the old man when you smashed his recon car, O'Hanlon . . . I heard about that from a pal. You don't leave your rep behind you when you shift outfits, soldier. As I was sayin', whenever you smell burning oil coming from the differential breather pipe, you can bet your last Jap that it's time to start turnin' the *other* way. More than a couple of turns in the same direction is a quick way to find trouble—and that's one thing you cowboys gotta learn.

"And while on the subject of turns, remember that you can't coast around corners without coming to grief. All your turns gotta be with the juice on. Keep both tracks driving, and make your turns wide and easy—like a good girl. If you know there's a sharp turn com-



*Former editor, *Army Motors*.



ing while you're tooling along in fifth, shift down to fourth and then to third in plenty of time to make the turn. You can't turn quick in a tank more than once—and it's no use tryin'. You'll throw a track every time.

"Another thing that'll throw tracks is trying to run across the slope of a hill. That's why I told you to aim at the top and run straight up. Goin' slantwise throws all the weight on one side and eases the track off just as nicely as that crap game eased Mayerling outa his cash. Ridin' across a slope can turn the buggy over, too. It's elementary, my dear Watson, that loose tracks, a broken wedge, wedge nuts, and connections or track links will do the same. No, Mayerling, Watson ain't a guy in this outfit.

"While on the subject of turning, here's two tips: one on a locked steerin' lever and one on skidding. If you have a locked lever—and you'll get 'em plenty—the lockin' pawl in the top of the lever may be engaged, so lift the knob and turn it to disengage the pawl. If this don't work, maybe the lever is froze. Pull it straight back, on the side opposite from what the tank is turning, to straighten the can by braking, and then slip out the clutch and stop. Sit around for a bit to let things cool off. Shift into reverse, back about ten yards, and then go ahead easy like. If that cures the sticking lever, test it to make sure it's cured and then go ahead. But if it ain't cured, give a yell for the maintenance gang.

"You handle a skid the same way you do in a truck—by steerin' into it—but there's a difference. And that difference is the matter of balancin' the pull o' the engine against the pull o' the skidding tank. If the engine is pulling the tank, ease your number fifteen—Jacobs!—off the gas. If the engine is braking the tank, step on the gas just a *leetle*. The idea is to have the engine hold its own, and not drive the tank at all or be driven by the tank. Get that balancin' rhythm in your hot feet and skiddin' is easy—I mean unskiddin' is easy. . . .

"When it comes to crossing trenches and ditches, make sure the tank will reach across or you'll find yourself saggin' in the middle. Elementary, my dear Wats—Mayerling, but I've seen plenty of guys wishing they had a girdle to keep their tank's innards in. Give 'er the juice just before you cross a trench to lift the nose over the hole. You'll get buried if you take it too easy.

"Tank traps is built on the supposition that tank drivers is blind and crazy. Sure, you can't see very well, but have you gotta be nuts all the time? It ain't your job to demolish tank traps—it's your job to get around 'em. But only when you hafta. Concertina wire, f'rinstance, shouldn't worry you if you take it over 20 and keep goin'. This keeps it from fouling the sprockets. When you're taking barbed wire, forget the wire and hit for the supports. Flatten 'em, and you're all right. The rest of the traps you leave strictly alone—it'll be a long time yet before you'll know by eye which ones will stop you and which won't. If you do stop, O'Hanlon, don't go poking that sweet face o' yours out into the scenery to see what happened. Them Japs don't like your face any more than the rest of us do, but they'll prove it. You stay inside and keep shootin' until one o' your pals can cover you from outside.

"If you're strictly stuck and have to hike back, don't leave nothin' for the enemy to use. Take out the gear-shift lever, smash the distributor and spark plugs, break the oil and fuel lines, bust the fuel tank, drop stones in the filler pipes. Bust the tracks, wedges, and connections, anything you can bust. Heave a grenade in the engine compartment. Set it afire if the flames don't give you away. Don't leave nothin' that them bums can use against us later.

"The guns come next. The submachine gun goes with you, but ruin the rest. Take a machine-gun barrel and pry between the side plates of the rest. The 37 and 75 can be ruined by ramming a machine-gun barrel down their throats and firing a HE shell by a lanyard from *outside* the tank. For the 75 use a point-detonating fuse. Take an ax to the 81 mortar. . . .

"The navy's lucky that way. They don't have to ruin their ships when they're in trouble. They're ruined for them, which is better than smashin' something you get to love. . . ."

NON COM QUIZ*

General Principles of Supply

THIS quiz, based on Cavalry Field Manual 2-15, Employment of Cavalry, deals with the general information of supply. Though personnel already acquainted with supply work will have little or no difficulty with this quiz, it is important that all noncommissioned officers be familiar with the supply phase of military operations. Tactical decisions will often be dependent upon the ability of supply personnel to support contemplated action(s).

Score ten points for each whole question answered correctly. Questions with more than one part carry the score shown in the answer spaces. A perfect score is 100, and seventy-five is the lowest passing grade.

After answering all questions refer to solution on page 91.

TEST

QUESTIONS

1. In a military sense the term "supplies" covers all items necessary for the equipment, maintenance, and operation of a military command. It includes food, clothing, equipment, arms, ammunition, fuel, forage, construction materials, and machinery of all kinds. For simplicity and convenience of administration, supplies required by troops in the field are divided into five classes. What are the class numbers of each?

a. Engine fuels and lubricants including gasoline for all vehicles and aircraft, Diesel oil, fuel oil, and coal.

b. Items consumed at an approximately uniform daily rate, irrespective of combat operations or terrain and which do not need special adaptation to meet individual requirements; examples: Rations and forage, fuel for field ranges.

c. Authorized items of equipment for which allowances are established in Tables of Basic Allowances and Tables of Allowances. It includes equipment for personal use of individuals—that which requires special arrangements to meet individual requirements; examples: Clothing, gas masks, organizational equipment, animal-drawn and motor vehicles.

d. Ammunition, pyrotechnics, antitank mines and chemicals.

e. Items, except ammunition, which are not covered by Tables of Basic Allowances and the demands for which are directly related to the operations in progress or contemplated; examples: Construction materials and machinery.

2. What is meant when it is said that supplies are:
Expendable?
Nonexpendable?

3. Field rations are of five types: A, B, C, D, and K (experimental). Type "A" corresponds to the garrison ration, is generally perishable and therefore not suitable as a reserve ration. What is the difference between types "A" and "B" rations?

4. Name the type of ration described below:

Previously cooked or prepared food, packed in hermetically-sealed cans, which may be eaten hot or cold. Each ration consists of six cans: Three contain crackers, sugar and soluble coffee and the other three usually contain stew, hash, and beans with pork, respectively. This is a reserve ration suitable to be carried by the unit or individual.

5. State the name of each method of ration distribution described below:

a. Regimental and separate unit trains go to the railhead (truckhead) where supplies have previously been broken down into regimental lots, load the supplies, and deliver them to organization kitchens. This method is used when the division quartermaster train is not available and when the railhead (truckhead) is within reach of the regimental train.

b. The quartermaster squadron breaks down the supplies into regimental and separate unit lots at the railhead, truckhead, or other point, and delivers them to the regimental kitchen areas or detached unit area. Here they are turned over to regimental personnel who sort them into lots for each kitchen and turn them over to the individual kitchens.

c. A division dump (or dumps) is established by the division quartermaster squadron where the supplies are broken down into regimental and separate unit lots and issued to unit trains that go back for them. The unit trains then deliver the supplies to the organization kitchens. This method is used when the railhead (truckhead) is too far removed for unit trains to reach and when sufficient division transportation for unit distribution is not available.

6. Upon what basis are gasoline, oil, and lubricants requisitioned in the field?

7. What is the allowance of white or unleaded gasoline for field ranges, Model 1937?

8. What is meant by the expression "The impetus of supply should be from rear to front"?

9. Which Regimental Staff Officer supervises and coördinates the supply of subordinate organizations in accordance with the plan for supply approved by the Regimental Commander?

10. Ammunition is carried by individuals or with each gun is prescribed in Tables of Basic Allowances. How much of a resupply is carried in unit train and division train, and how are these trains replenished?

For solution, turn to Page 91.

*Prepared under the direction of The Department of Tactics, The Cavalry School.

Medical Aid With a Cavalry Regiment (*Mechanized*)

*By Captain Russell W. Hibbert, Jr., M.C.**

APPLICATION of immediate medical aid means much toward the protection and conservation of the strength of the command. A mechanized cavalry regiment presents the problem of dispersed troops employed on several missions at one time, and traveling from one locality to another as rapidly as speed of vehicles will permit. This in turn creates medical problems which are difficult to cope with if only issued equipment can be used. The Medical Detachment, 4th Cavalry, therefore, has devised and constructed several aids which help to make immediate medical assistance a reality.

The first of these is the mobile aid station, which is a light, inexpensive, simply constructed and equipped panel on which is secured the essential medical aid material. We now have one of these units in each of our ambulances. The construction and use of this unit has previously been reported;[1] however, several improvements have been added. The main one is a formaldehyde sterilizer which provides an immediate supply of sterile instruments. This type of sterilizer is easy to maintain and has proven very effective.

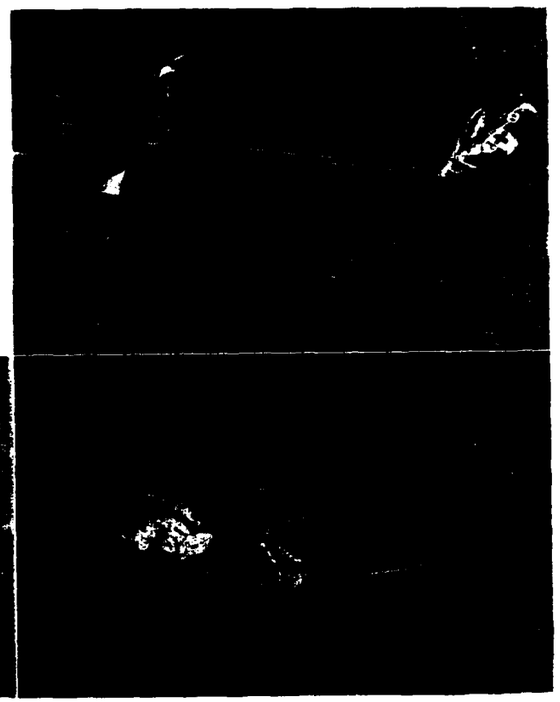
Additional equipment which we have found to be extremely valuable is a collapsible litter which is so constructed as to just fit across a bantam. A regular government issue litter is taken and the handles are removed, thus shortening the length of the litter by about twenty inches. Leather straps are placed over the ends of the poles to be used as handles. Then the litter poles are cut into two sections and hinged with three inch strap hinges which are reinforced by welding. The stirrups are split and small metal pieces are welded in place so that the space is just wide enough to fit over the rod along the edge of the bantam. The stirrups are removed from an additional cross bar and the cross bar placed just below the hinges so that support is given to the center of the litter. The canvas is regulation size with a semi-circular cut on each side just over the hinge, and then extra heavy canvas or thin leather is used to reinforce the canvas across the center. Most of these points can be seen if the accompanying pictures are closely scrutinized.

This litter can easily be carried in the rear of a bantam. Rapidly opened and placed across the bantam it can be used as an emergency ambulance or as a collecting agent for casualties in a locality where the ambulance cannot go.

With the use of a bantam, the collapsible litter, and a portable first aid chest which is shown in the picture, two of the three first aid men assigned to each troop can travel in their own transportation and take care of all casualties that occur. With this equipment the first aid men are able to take care of litter cases and remove them to the base of communication so that the casualty can be picked up by other medical detachment men. The troop aid men are then able to return to their unit in their own transportation.

*Regimental Surgeon, Fourth Cavalry.

[1]Hibbert, Russell W.—Medical Aid With A Cavalry Regiment, (H & M). The CAVALRY JOURNAL, September-October, 1941.



Right—This picture shows how easily the litter can be folded. Note how the stirrups are fixed so that they fit over the rod on the bantam. ***Lower left***—This picture shows the Troop Aid men in their bantam with a first aid chest and collapsible litter. The chest can be carried on the floor when the litter is placed across the bantam. ***Lower right***—This picture shows the collapsible litter in place, carrying a patient.

STARCHASER BATTALION

*By Lieutenant John N. Hutchison, Infantry**

THE general's car, led by state patrolmen, was tooling along United States Highway No. 1 in South Carolina.

It swung around a turn, and there stood a civilian vehicle. The general's car stopped. Out from behind the civilian car stepped a tall captain from the 82nd Reconnaissance Battalion.

"Good morning, general," he said politely. "Will you join me?"

That's how Lieutenant General Hugh A. Drum, commanding the First Army, was captured deep in his own territory by a raiding party from one of the cockiest outfits in the American Army. In all the 1941 maneuvers, there was no capture like that one. Never had a lieutenant general been made a prisoner.

Even the 82nd, now getting accustomed to capturing brass hats, was a bit excited at the taking of the First Army commander. At first hand it had the look of a spectacular stunt—one of those lucky breaks that couldn't happen once in a thousand war games.

But the official report of the toil, the daring and the careful operations that went into the exploit threw a different light on it. The capture of General Drum had its element of luck, but it could well be expected of the 82nd. It was the climax to a plan.

In the frosty dawn of November 16, 1941, Company D of the 82nd (now Company C) was carrying out its mission:

"Seize and hold all bridges on the axis of advance of the left column of the Second Armored Division, in addition to normal reconnaissance missions."

The company was able to rush forward clear to the Pee Dee River, nominal boundary between the Red and Blue armies. There Captain John H. Huckins chose a site for fording the stream near an old ferry landing.

The water was very cold. Says the official report:

"Lieutenants Stroop and McGee; Sergeants Patrick, White, Vinson and Boston; Corporal Parra and Private Reeves immediately volunteered to plunge into the river and sound the bottom for the best route across. These men were in the stream some three-quarters of an hour before a satisfactory route was found from the west bank to an island, and a way from it to the east bank."

The temperature was below freezing that morning.

Through the swirling brown water went a foot patrol to protect the crossing from the east bank. Meanwhile men with pioneer tools began cutting down the approaches on the stream and the island to make ready for the vehicles. This work was very difficult because of the terrain, the report said.

Splattering through the ford went the first vehicle—one of the tiny reconnaissance cars called a "peep" by the Second Armored. Then a half-ton truck went over, followed by a big truck with a winch.

While this first phase of the crossing was going on, enemy infantry patrolling the east bank opened fire. More men of the 82nd rushed across, building up fire against the infantry until they were driven off.

The company crossed over, using the winch on the big truck to draw the remainder of the vehicles over. Let the report by Captain Huckins tell the rest of the story:

"Realizing that reinforcements of the enemy were increasing rapidly, the company commander, with Sergeant John R. White and Private Cecil Boatwright, using an aerial photograph, moved around the enemy left and found a safe way to United States Highway 1, and a point from which the company could advance on Hamlet and harass rear installations suspected to be in that vicinity and near Rockingham.

"While at a crossroad on Highway 1, and about a quarter of a mile from a battalion of enemy infantry, a trap was laid to capture officers for identification purposes, and to secure maps and plans if possible."

The spot looked like a good place "to get some rank," was the way the captain explained it later. Several Army vehicles came along. They were halted and hidden behind a nearby house.

Then the patrolmen's sirens could be heard. The starchasing men of Company D tensed. This must be somebody big!

It was.

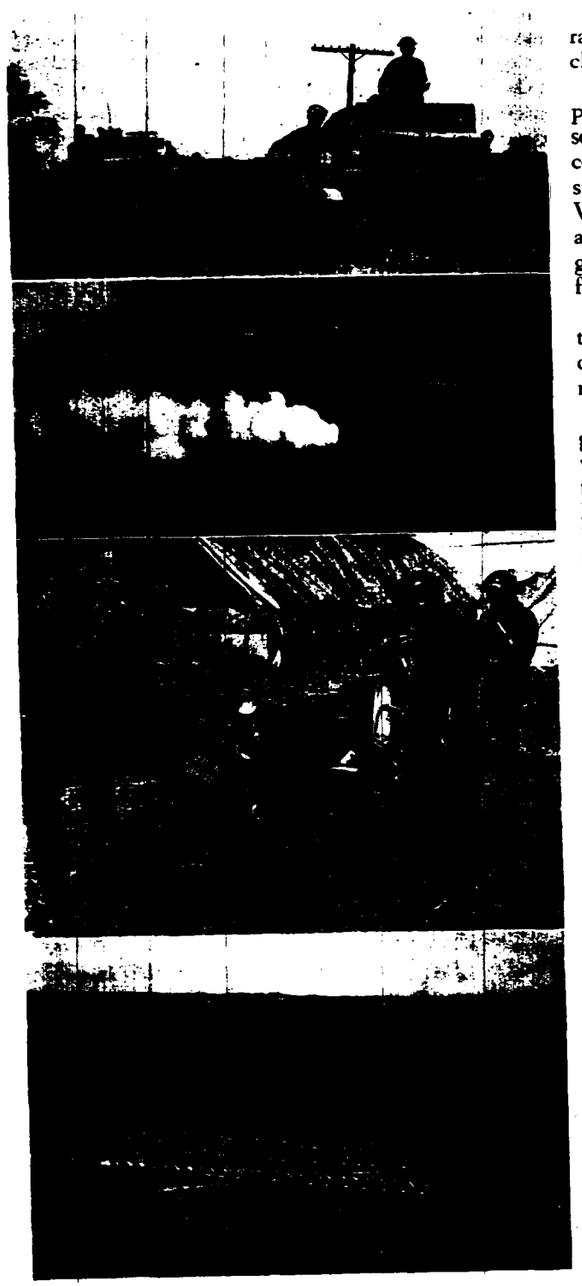
It was the biggest somebody ever caught in American maneuvers. It was General Drum and two aides, a lieutenant-colonel and a major.

The general said that he understood that, if captured, he was to be held only an hour. The captain courteously disagreed. The two reached a gentlemen's compact that General Drum would drive to General Headquarters and obtain a ruling, returning at once if so ordered by G.H.Q.

"Enemy troops were constantly moving past, and finally a hostile patrol discovered this group and we retired toward the river, the official report continues. "We were hotly pursued by four trucks with hostile infantry and were forced to leave the road and take to cover."

Several men of the 82nd were captured, Captain Huckins had to escape on foot, rejoining his command two miles away. Meanwhile Lieutenant McGee attacked a nearby town, throwing enemy rear installations into great confusion and sending back much valuable information before his platoon was taken by the enemy. For five hours, while the enemy sought him with vigor, he and his platoon were behind the enemy lines.

*Second Armored Division.



1—The watchful 82nd advances cautiously along a road during maneuvers. 2—The "peep" is a fine vehicle for cross-country reconnaissance. This one has a smoke generator for laying a screen. 3—Until recently, the 82nd has made great use of many motorcycles, ridden by crash-helmeted daredevils. Now, however, the more versatile ¼-ton truck has almost crowded the cycle from the battalion. 4—The 82nd in a non-tactical bivouac at Chickamauga Park, near Chattanooga, just before the Tennessee maneuvers.

It was night when D Company returned from its raid and recrossed the Pee Dee. The official report concluded:

"This was a most difficult task as night, and was only possible through the most exhausting work of all personnel surviving the action. The maintenance section continued indispensable work under enemy fire. Outstanding work was performed by Sergeants Harris and Vinson, the latter having crossed the river by wading at least ten times to my knowledge. He personally guided many vehicles across, and worked in the water for over four hours to my knowledge."

General Drum was a good sport about being captured, Captain Huckins related. The general, in a critique after the maneuver phase, commended the reconnaissance officer for his exploit.

The 82nd is made up of confirmed starchasers. They go out looking for generals, because they know that when they capture general officers they are paralyzing the very nerves of the enemy. On a hot, dusty day in the Louisiana maneuvers, Company B thrust across a main highway at two points, trapping Brigadier General C. H. Gerhardt, commanding the Second Cavalry Brigade.

Shortly after sunup on a cold morning in the last phase of the Carolina maneuvers, a patrol from Company A rolled into the command post of Brigadier General E. J. Stackpole and the two regimental commanders of his brigade. The umpire ruled the whole installation out for two hours, while the Second Armored Division took advantage of the valuable time gained.

Let it not be thought, though, that generals are the only game considered worth taking by the audacious raiders of the 82nd. Matériel they have taken includes the seizure by Company C (now Company D) of almost an entire regiment of 155-mm. howitzers, the taking by Company A of 10 155-mm. rifles and a balloon in one engagement, and the capture by a platoon from B Company of a huge Army airport with its planes.

The airport capture—that of Barksdale Field, Shreveport—climaxed the Louisiana maneuvers. Here is an umpire's report:

"Lieutenant B. M. Bailey, commanding the first platoon, Company B, is particularly deserving of credit for eluding enemy patrols and fighting his way into Barksdale Field."

Lieutenant Bailey arrived at Barksdale Field, completely surprised the Red units guarding the field. By his aggressive action he destroyed the weapons carriers of the 131st Infantry guarding the post operations office, and by dismounting his scout car crews in the face of enemy fire he obtained possession of the operations office, and for 15 minutes his platoon had control of the office, during which time he could have completely destroyed the staff and all operations. At the end of the 15 minutes Lieutenant Bailey's platoon was annihilated, but not before having accomplished its mission. . . ."

Lieutenant Sidney Miller, executive officer of Company B, followed the exploits of Lieutenant Bailey with one equally daring. By clever maneuvering he was able to place two scout cars close enough to the field to enable him to dismount his caliber .50 and caliber .30 machine guns and place under fire the Red planes on the field. Taking the enemy completely by surprise, Lieutenant Miller secured credit from the umpires for destroying the plane crews and all planes before being put out of action himself. By his concentrated fire on the planes he was able to prevent any flight from Barksdale Field during the remainder of the maneuvers.

"The actions of these two officers operating against tremendous odds rendered useless one of the enemy's most important air bases at a time when air support was vital to the successful defense of Shreveport."

As Lieutenant Colonel I. D. White, the 82nd's commander, would be the first to point out, resourcefulness is a prime requisite for a reconnaissance battalion. Often small units, sometimes led only by a corporal, find themselves operating alone, deep in enemy territory. Their mission is generally to get information of the enemy, but that information is no good to anyone until it gets back to the men who need it, in time to use it.

To a patrol operating behind the enemy lines, getting back is very likely to mean fighting back, and against heavy odds. Only clever, aggressive, daring soldiers have a chance to survive such operations—men who have learned to depend on themselves.

Ingenuity crops up in the 82nd in other respects, too. There is Captain John H. Kincade, battalion supply officer, who found himself at one time in Texas with rations on hand but no battalion to deliver them to. The fast-moving companies of the 82nd had shifted to new positions.

Captain Kincade is a licensed private pilot. He drove to the Kilgore airport, rented a plane. He flew over the surrounding territory, found the 82nd's columns on the road and dropped a note with information about the ration and gas distributing points.

These bird dogs of the Second Armored whose bite is so bad are a new outfit. They were organized into the Second Reconnaissance Battalion in July, 1940, when the division was activated. Oddly enough, although it is predominantly a cavalry-type unit, it was first commanded by a first lieutenant of artillery. Colonel White took over about two months later. Since then the battalion has been redesignated as the 82nd.

The armored reconnaissance battalion, such as the 82nd, is the principle ground reconaissance unit in an armored division. It shares with the observation squadron the task of searching deep into the enemy, to seek his main strength and to probe for his nerve centers. Local terrain and battle reconnaissance is not the usual mission of the battalion. These, rather, are functions of the reconnaissance elements of the regiments.

The battalion is concerned with a broader picture of the enemy. It wants to know what is deep behind the enemy patrols. It watches and reports the movements or character of large bodies of troops. It tries to get back to the division commander the information that will, when pieced together, influence the movement of the whole division.

For that reason, for example, it is not of great concern to the 82nd when it sees roving, isolated enemy patrols. What concerns the 82nd is that 50 miles up a river there are bridge troops of an engineer regiment moving in heavy equipment for a major crossing effort, or that 40 miles behind the enemy front lines there is a gasoline dump, which if set afire, can cripple the operations of the foe.

"We would rather operate by stealth to gain our ends," says Major Paul A. Disney, executive officer, "but we probably have to fight more often than the older type of reconnaissance unit." This is because the armored reconnaissance battalion, meeting the needs of an armored division, must push deeper than usual, and hence must often overcome stiff resistance. Once the enemy screen is torn aside, and his real dispositions are exposed to the gaze of the armored reconnaissance, the battalion must then cling to the enemy like a burr until the armored division closes with its combat elements. Even after the battle is under way, the battalion, keeps probing, searching, sending back information. But by this time, it may have had to slip to a flank of the main effort, or swing wide into the enemy's rear.

Of the 82nd, an official division report said at the close of one phase of the Carolina maneuvers:

"This unit performed distant reconnaissance prior to and during the tactical exercise. It gained contact promptly and kept in contact throughout each problem. Due to its efforts and its prompt radio reports it was possible to get and keep a very accurate picture of the enemy location and disposition to our front. Frequent reports of identifications kept the division well informed as to the units. Information was transmitted by radio primarily. A liaison officer from the battalion was located at division headquarters, and furnished valuable information and contacts."

"Audacia Cum Prudentia" is the newly approved motto of the 82nd. Freely translated, it means "Lots of guts with plenty of sense," or to be more formal, "Daring with Judgment."

The training of every leader, down to the P.F.C. who finds himself in command of two other men in a quarter-ton "peep," must seek to strike that precarious balance between the too impetuous and the too cautious. At any minute in an action, the reconnaissance trooper may find himself asked by circumstances for a swift and brave decision.

Now that war is here to take the place of maneuvers, the 82nd is just as confident as ever. Just the other day a trooper from the battalion pushed his yellow-braided cap a little farther to the side of his head and said:

"We'll knock off some real enemy generals this time, and we won't turn 'em loose, either."

German Military Symbols*

Command posts or headquarters and units.

A Gp HQ
AHQ
CHQ
DHQ (Landwehr DHQ is shown with "Lw" on left-hand side)
MDHQ
Armd DHQ
Inf Comdr's HQ (at DHQ)
Arty Comdr's HQ (at DHQ)
Cav BHQ
Tank BHQ
Mtz Inf BHQ
Mountain BHQ
Mtcl Msgr unit
Map-printing Sec (Mtz)
Surv Sec (Mtz)

Infantry.

RHQ
Mountain rifle RHQ
Bn Hq
Mountain rifle Bn Hq
Mtz MG Bn Hq
Bcl Bn Hq
Inf Bn (showing composition and number of LMGs and HvMGs and Sig Sec)
Inf Bn (1st Bn of 21st Regt)
Co Hq
Rifle Co

*—From TM 30-450.

Mountain rifle Co
Bcl Co
Mtcl Co
MG Co
MG Co of Mountain rifle Bn
Mtcl MG Co
Inf How Co
AT Co
MI Plat
Sig Sec (Inf Regt or Bn)
Sig Sec (Mountain rifle Regt or Bn)
L Inf clm (HD)
L Inf clm (Mtz)
LMG
LMG in position
HvMG
HvMG in position
Inf How
L Mort
Hv Mort
AT rifle
Med Inf How
AT gun
AT gun in position
Co Comdr
Individual rifleman
Patrol
Outguard
OP
Rifle Sec in position
Extended riflemen
Inf on the march (showing unit numbers)

Cavalry.

Horse or Mtz Cav RHQ
Horse or Mtz Cav Regt
Inf Div Rcn Unit Hq
Inf Div Rcn Unit
Tr Hq
Horse Cav Tr
MG Tr
Bcl Co
Cav gun Plat
Engr Plat (Mtz)
Sig Plat
L Cav clm
Individual cavalrymen
Cav patrol
Cav outguard
Bcl patrol
Movement of Cav
Cav on march

Artillery.

FA R HQ (horse)
FA R HQ (Mtz)
FA Bn Hq (horse)
FA Bn (1st Bn of 1st Regt)
FA Bn Hq (Mtz)
FA Bn Hq (horse)
FA Bn in position (horse)
Surv Unit Hq (Mtz)
Mountain Bn Hq
FA How Btry
Mountain Btry
FA How Btry
FA How Btry in position
FA Btry (horse)
Med Gun Btry
Med How Btry
L Arty clm
L Arty clm (Mtz)
Map-printing Sec (Mtz)
Arty Surv Plat
Met Sec (Mtz)
Regt or Bn Sig Sec
Mountain Bn Sig Sec
OP
Arty on march

Armored troops.

Tk R HQ
Ren Unit Hq (Mtz)
Ren Unit (Mtz)
AT Bn Hq
AT Bn
Tk Bn Hq
Tk Bn
Mtz Inf Bn Hq
Mtcl Bn Hq
Tr or Co Hq (armored fighting troops)
Mtcl Co
Rifle Co
MG Co
Hv Wpns Co
AT Co
Armd-C Tr
Tk Tr
Sig Sec

Tk Plat

Mecz clm on the move

Engineers.

Engr Bn Hq (part Mtz Bn)

425690°—41——28 433

Engr Bn Hq (Mtz Bn)

Mountain Engr Bn Hq

Engr Co Hq

Part Mtz Co

Hv Mtz Co

Mtz Tools Prk

Bridge clm (Mtz)

Res Stores Prk

Res Stores Prk (Engr Bn in Mountain Div)

Signal Corps.

A Sig RHQ (Mtz)

C Sig Unit HQ (Mtz)

Inf Div Sig Unit

Sig Co Hq

Sig Co

Tp Co (part Mtz)

Tp Co (Mtz)

Tp Cons Co (Mtz)

Tp Operating Co

Rad Tg Co (Mtz)

L Sig clm (Mtz)

Hv Tp subsec

L Tp subsec

Tp Operating subsec

L Rad Tg subsec (Mtz)

Hv Rad Tg subsec (Mtz)

Low power Field Rad Tg subsec (Mtz)

Pk Rad Tg subsec

Lamp Sig subsec

Msgr dog subsec

Carrier pigeon subsec

Sig Office

Tp exchange

Lamp Sig Sta

Lamp terminals

Communication by messenger dogs

Tp earth return

Tp metallic connection

Rad tg terminals

Msg Cen

Transport.

a. MTrk and H Units.

MTrk Co

MTrk Co Hq

H Co

b. Trains of combat troops.

Sup Tn (H)

Sup Tn (Mtz)

Baggage Tn (H)

Baggage Tn (Mtz)

Combat Tn

Supply service.

Hq of supply unit

Hq of supply unit with mountain div

Hq of H. Sup clm

Sup Co

Sup Co for mountain tr

LMTrk clm

LMTrk clm for gasoline and oil

Hv MTrk clm for gasoline and oil

Hv MTrk clm

H clm

H clm for Cav units

H clm for mountain units

Maint Co (mobile)

Gasoline filling station

Army Am Dep (at base)

Am Dep (in forward area)

Ord Dep

Salv Dp (equivalent)

Salv Dp (Am)

Inf Prk

Arty Prk

Engr Prk

Sig Prk

MTrk Prk

Administrative service.

F Bkry (closed)

Slaughter Plat (closed)

F Bkry (in operation)

Slaughter Plat (in operation)

Div RDP

Army Commission Dep

Cattle Prk

Medical service.

Army Med Unit Hq

Base Hosp

F Hosp

Hosp ship

Hosp in home country

Med Co (Mtz)

Half med Co (Mtz)

Hosp Tn (empty)

Tn for walking wounded (full)

Amb Sec (Mtz)

Med Sup Dep

Branch Med Sup Dep

In billets or barracks:
- Reception point
- Dispensary Sta
- Hosp

In the field:
- Forward Coll Pt
- First Aid Sta
- Amb Sta
- Coll Sta
- Coll Sta for walking wounded

Veterinary service.

Vet Hosp

Rmt Prk

Vet supply Pt

H Amb Sec (Mtz)

Sick lines for horses

Vet aid Sta

Coll Sta for sick and wounded horses

Rust Dep

Provost service.

MP unit

Police Hq (for town or district)

L of C guard Co

Information office

Prisoners' Coll Pt

Postal service.

FPO

FPO (Mtz)

Railroad.

Transportation officer

Railroad officer

Embarkation officer

Entraining Sta (Spandau)

Detraining Sta (Bremen)

Am Tn

Sup Tn

Gasoline train (empty)

Personnel train (stationary)

Personnel train (on the move)

Empty train (stationary)

Empty train (on the move)

7. Inf Div moving by rail to Ulm (24 trains per day)

Area containing 72 loaded trains

Forwarding office

Drinking or watering place

Obstacles.

Wire fence

Wire entanglements

Wire netting obstacle

Trip wire

Tree blocks

Felled trees

Buildings razed to the ground

Flooded area (colored blue)

Dam

Boundaries.

Army

Corps

Div

Regt

Bn (or equivalent unit)

Co (for equivalent unit)

Objective

Limit of Rcn

Air force.

Parachute unit

Parachute Bn

Parachute rifle Co

Antiaircraft units

AA RHQ

LAA Bn Hq

Hv AA Bn Hq

AA Slt Bn Hq

AA Bn of twelve 20-mm guns

AA Bn of nine 37-mm guns

AA Bn of four 88-mm guns

AA Slt Sec of four (60-cm) searchlights

AA Slt Bat of nine (150-cm) searchlights

AA clm (22 metric tons)

AA clm (48 metric tons)

AA Bn signals

Reserve AA Bns

Ground signs used by troops for communication with aircraft.

Position for dropping messages

Do not understand

Understood (can also mean "Yes")

Enemy preparing attack

Enemy is attacking

Enemy has penetrated our position

Enemy has penetrated on our left

Enemy has penetrated on our right

Front line

No

We are surrounded

Reinforcement necessary

Center of enemy resistance

Enemy batteries

Enemy attack repulsed

We are holding the line

We require ammunition

Food supplies required

We advance (are ready to attack)

List of Abbreviations

Abbreviation	Signification	Translation
A. A. 2 (mot.)	Aufklärungs—Abteilung 2 (Mtz).	2d Motorized Reconnaisance Battalion.
A. B.	Armee-Befehl	Army order.
a. B.	auf Befehl	By command of, by order, signed for.
Abl.	Ablage	Dump.
Abt.	Abteilung	Battalion or unit.
a. D.	ausser Dienst	Retired.
A. H. Q.	Armee-Hauptquartier	Army Headquarters.
A. K.	Artillerie-Kommandeur	Divisional artillery commander.
	Artilleriekolonne	Artillery column for ammunition supply.
A. K. III	Armeekorps III	III Corps.
ält.	ältester	Senior.
A. M. Tr.	Altilleriemesstrupp	Artillery survey platoon.
A. N. R.	Armee-Nachrichten-Regiment.	Signal corps regiment in the Army.
-anw.	-anwärter	Candidate.
A. O. K. 6	Armee-Oberkommando 6	6th Army Headquarters.
A. R. 12	Artillerie-Regiment 12	12th Artillery Regiment.
II/A. R. 43	II Abteilung Artillerie-Regiment 43	2d Bn. of 43d Artillery Regiment.
4/A. R. 5	4 Batterie Artillerie-Regiment 5.	4th Battery of 5th Artillery Regiment.
Art.	Artillerie	Artillery.
Art. Kdr.	Artillerie-Kommandeur	Artillery commander.
Art. Sch.	Artillerieschule	Artillery School.
Aufkl.	Aufklärung	Reconnaissance.
Ausb.	Ausbildung	Training.
Ausr.	Ausrüstung	Arms and Equipment.
A. W.	Aussenwache	Outguard.
B.	Bach	Brook.
	Beobachtung	Observation.
Bäck.	Bäckerei	Bakery.
Battr.	Batterie	Battery.
B. Btl.	Baubataillon	Construction battalion.
B. d. E.	Befehlshaber des Ersatzheeres	Commander zone of interior.
Bekl.	Bekleidung	Clothing.
B (eob). Abt. 3	Beobachtungs-Abteilung 3	3d Artillery Sound and Flash Battalion.
Beob. Lehr. Abt.	Beobachtungs-Lehr-Abteilung	Artillery sound and flash

Abbreviation	Signification	Translation
ber.	beritten	Mounted.
Bez.	Bezirk	District.
Bf.	Bahnhof	Railroad station.
Blst.	Blockstation	Signal box.
Br.	Brücke	Bridge.
	Brunnen	Well.
Bruko	Brückenkolonne	Bridge column.
B. St.	Beobachtungsstelle	Observation post.
Btl., Btln.	Bataillon	Battalion.
Btl. G. St.	Bataillonsgefechtsstand	Battalion command post.
Bttr.	Batterie	Battery.
D. A. A.	Divisions-Aufklärungs-Abteilung	Divisional reconnaissance battalion.
d. B.	des Beurlaubtenstandes	Retired.
1. Div.	1. Division	1st Division.
E. B.	Ersatz-Bataillon	Training battalion.
Eisb.	Eisenbahn	Railroad.
E. M.	Entfernungsmesser	Range finder.
Ers.	Ersatz	Replacement, reserve.
F.	Fähre	Ferry.
Fbr.	Fabrik	Factory.
Fda.	Feldartillerie	Field artillery.
Fl.	Fluss	River.
Fla.	Flugabwehr	Antiaircraft.
Flak.	Flugabwehrkanone	Antiaircraft gun.
Flw.	Flammenwerfer	Flame thrower.
Fnd.	Feind	Enemy.
Ft.	Furt	Ford.
Fw.	Feldwebel	Sergeant.
G.	Geheim	Secret.
Geb. Jäg. R. 99	Gebirgsjäger-Regiment 99	99th Mountain Rifle Regiment.
Geb. Pi. 54	Gebirgs-Pionier-Bataillon 54	54th Mountain Engineer Battalion.
Gefr.	Gefreiter	Corporal.
Gef. St.	Gefechtsstand	Command post.
-geh.	-gehilfe	Assistant.
Gel.	Gelbkreuz	Yellow cross (i. e., vesicant) gas.
Gen.	General	General.
Gen. Kdo. III A.K.	Generalkommando III Armeekorps	III Corps Headquarters.
Genst. d. H.	Generalstab des Heeres	Army General Staff.
Gestapo	Geheime Staatspolizei	Secret State Police.
Gew.	Gewehr	Rifle.
gez.	gezeichnet	Authenticated.
gl.	geländegängig	Cross-country (as applied to vehicles).
Gr.	Granate	Shell.
	Gruppe	Section (especially of Infantry); force; army group.
Grz. Kdo.	Grenzkommando	Frontier division headquarters.
H.	Heeres	Army.
Hbf.	Hauptbahnhof	Main station.
H. Dv.	Heeres-Dienstvorschrift	Army Training Regulations.
Höh. Kav.	Höherer Kavallerie-Offizier	Senior Cavalry officer at headquarters.
Höh. Nachr. Offz.	Höherer Nachrichten-Offizier	Senior Signal corps officer at headquarters.
Höh. Offz. Art.	Höherer Offizier der Artillerie-Beobachtungstruppen	Senior Artillery survey officer at headquarters.
Beob. Tr.		
Höh. Pi. Offz.	Höherer Pionieroffizier	Senior Engineer officer at headquarters.
Höh. Pz.	Höherer Panzerabwehr-Offizier	Senior antitank officer at headquarters.
Abw. Offz.		
Horn.	Hornist	Bugler.
Hp.	Haltepunkt	Stopping place.
Hptm.	Hauptmann	Captain (except in cavalry and horse artillery).
Hs.	Haus	House.
H. V. Bl.	Heeres-Verordnungsblatt	Army orders.
i. A.	im Auftrage	By order.
I. A. W.	Inspekteur des Ausbildungswesens	Inspector of Training.
I. D.	Infanterie-Division	Infantry division.
I. G.	Infanteriegeschütz	Infantry howitzer.
13./(I. G.)/I. R. 11.	13. (Infanteriegeschütz) Kompanie Infanterie-Regiment 11.	13th (Infantry Howitzer) Company of 11th Infantry Regiment.

Abbreviation	Signification	Translation
Inf. Kdr. 4	Infanteriekommandeur 4	Infantry Commander of the 4th Division.
Inf. Sch.	Infanterieschule	Infantry School.
Insp.	Inspekteur	Inspector.
	Inspektion	Inspectorate.
I. R. 6	Infanterie-Regiment 6	6th Infantry Regiment.
II./I. R. 24	II. Bataillon Infanterie-Regiment 24	2d Battalion of 24th Infantry Regiment.
6./I. R. 20	6. Kompanie Infanterie-Regiment 20	6th Company of 20th Infantry Regiment.
i. V.	in Vertretung	Deputy for.
Jäg.	Jäger	Rifleman or rifle (unit).
Jg.		
K.	Kirche	Church.
Kan.	Kanal	Canal.
	Kanonier	Gunner.
Kap.	Kapelle	Chapel.
Kas.	Kaserne	Barracks.
Kav.	Kavallerie	Cavalry.
Kav. R. 11	Kavallerie-Regiment 11	11th Cavalry Regiment.
5./Kav. R. 10	5. Schwadron Kavallerie-Regiment 10	5th Troop of 10th Cavalry Regiment.
Kav. Sch.	Kavallerieschule	Cavalry School.
K. D.	Kavallerie-Division	Cavalry Division.
Kdo.	Kommando	Headquarters.
Kdr.	Kommandeur	Commander.
Kdt.	Kommandiert	Detached, detailed.
	Kommandant	Commandant.
Kdtr.	Kommandantur	Commandant's office.
Kf.	Kraftfahr	Motor Transport.
Kf. Lehrst.	Kraftfahrlehrstab	Motor transport training staff.
Kfw.	Kampfwagen	Tank.
Kfz.	Kraftfahrzeug	Motor transport vehicle.
K. G.	Kavalleriegeschütz	Cavalry howitzer.
Kkw.	Krankenkraftwagen	Motor ambulance.
Kl.	klein	Small.
Kol.	Kolonne	Column.
Kp.	Kompanie	Company.
Kr.	Krug	Public house, inn.
	Kranken-	Sick (etc.).
Krad.	Krafrad	Motorcycle, solo.
Krad. mit Beiwg. Krad. mit B.	Krafrad mit Beiwagen	Motorcycle with side car.
Kradf.	Kraftradfahrer	Motorcyclist.
Kradsch.	Kradschützen-Bataillon 3	3d Motorcycle Battalion.
2./Kradsch. Btl. 3	2. Kompanie Kradschützen-Bataillon 3	2d Company of 3d Motorcycle Battalion.
Kraftf.	Kraftfahrer	Truck or car driver.
Krkw.	Krankenkraftwagen	Motor ambulance.
Krw. G.	Kraftwagengeschütz	Tractor-drawn gun.
Kst.	Küste	Coast.
Kw.	Kraftwagen	Truck.
Kw. Ah.	Kraftwagenanhänger	Trailer for truck.
Kw. Flak.	Kraftwagenflak	Motorized antiaircraft artillery.
Kw. K.	Kraftwagenkanone	Tractor-drawn gun.
kz.	kurz	Short.
L.	Luft-	Air.
l.	leicht	Light.
Laf.	Lafette	Gun-carriage.
l. Art.	leichte Artillerie	Light artillery.
Ldst.	Landsturm	"Landsturm" (i. e., men over 45).
Lehrg.	Lehrgang	Course of instruction.
l. F. H.	leichte Feldhaubitze	Light field howitzer.
lg.	lang	Long.
l. Gr. W.	leichter Granatwerfer	Light mortar.
l. J.	laufenden Jahres	Of the current year.
Lkw.	Lastkraftwagen	Truck.
L. L. T.	Luftlandungstruppen	Air landing troops.
L. M. Tr.	Lichtmesstrupp	Flash ranging platoon.
Lst.	Ladestelle	Loading platform or point.
Lt. Ltn.	Leutnant	Second lieutenant.
lt.	laut	In accordance with.
Lw.	Landwehr	"Landwehr" (i. e., men aged 35-45).
M.	Mühle	Mill.
m.	mitter	Medium.
Mag.	magazin	Magazine, store, depot.
Maj.	Major	Major.

Abbreviation	Signification	Translation
M. E. Z.	Mitteleuropäische Zeit	Central European time.
M. G.	Maschinengewehr	Machine gun.
M. G. Btl. 6. (mot.).	Maschinengewehr-Bataillon 6 (mtz.)	6th Machine-gun Battalion.
4./(M. G.) I. R. 10	4. (Maschinengewehr) Kompanie Infanterie-Regiment 10	4th (Machine-gun) Company of the 10th Infantry Regiment.
Mil.	Militär	Military.
Min.	Ministerium	Ministry.
M. K.	Munitionskolonne	Ammunition column.
Mk.	Marschkolonne	March column.
Mldg.	Meldung	Message.
mot.	motorisiert	Motorized.
M. P.	Maschinenpistole	Machine pistol or submachine gun.
M. S. W.	Militärsanitätswesen	Army medical service.
Mun.	Munition	Ammunition.
Mun. Anst.	Munitionsanstalt	Ammunition depot.
m. V.	mit Verzögerung	With delayed action.
N. Abt.	Nachrichten-Abteilung	Signal battalion.
N. Abt. 1	Nachrichten-Abteilung 1	1st Signal Battalion.
2./N. Abt. 2	2 Kompanie Nachrichten-Abteilung 2.	2d Company of 2d Signal Battalion.
Nachh.	Nachhut	Rearguard.
Nachr. Abt. 1	Nachrichten-Abteilung 1	1st Signal Battalion.
Nachr. Z. I/I. R. 8.	Nachrichtenzug I-Bataillon Infanterie-Regiment 8	Signal Platoon of 1st Battalion of 8th Infantry Regiment.
Nachsch.	Nachschub	Supply.
Nebelw. Abt. 1.	Nebelwerfer-Abteilung 1	1st Smoke Battalion.
3/Nebelwerfer-Abt. 4.	3 Kompanie Nebelwerfer-Abteilung 4	3d Company of 4th Smoke Battalion.
N. G.	Nahkampfgeschütz	Close-support gun.
N. O.	Nachrichtenoffizier	Signal officer.
N. S. D. A. P.	Nationalsozialistische Deutsche Arbeiterpartei	German National Socialist Labor Party.
N. S. F. K.	Nationalsozialistisches Fliegerkorps	National Socialist Flying Corps.
N. S. K. K.	Nationalsozialistisches Kraftfahrerkorps	National Socialist Motor Corps.
N. S. K. O. V.	Nationalsozialistische Kriegsopferversorgung	National Socialist War Victims Welfare Association.
N. S. R. K.	Nationalsozialistisches Reiterkorps	National Socialist Mounted Corps.
N. Z., N. Zg	Nachrichtenzug	Signal Platoon.
O. A.	Offiziersanwärter	Candidate for commissioned rank.
Ob. d. H.	Oberbefehlshaber des Heeres	Commander in Chief of the Army.
Ob. d. L.	Oberbefehlshaber der Luftwaffe	Commander in Chief of Air Force.
Ob. d. M.	Oberbefehlshaber der Marine	Commander in Chief of the Navy.
Oblt(n).	Oberleutnant	First lieutenant.
Obst.	Oberst	Colonel.
Obstlt(n).	Oberstleutnant	Lieutenant colonel.
Offz.	Offizier	Officer.
O.K.H.	Oberkommando des Herres	High Command of the Army.
Ordz.	Ordonnanz	Orderly.
o.V.	Ohne Verzögerung	Instantaneous, without delay.
O.V.L.	Oberst Verkehrsleitung	Road Traffic Control Section at GHQ_A
P.A.A.	Panzerjäger-Abteilung	Antitank battalion.
Pak.	Panzerabwehrkanone	Antitank gun.
14./(Pz. Jg.) I. R. 17	14. (Panzerjäger) Kompanie Infanterie-Regiment 17	14th (Antitank) Company of 17th Infantry Regiment.
Patr.	Patrone	Cartridge.
Pers.	Personal	Personnel.
Pi. or Pion.	Pioniere	Engineers.
Pi. 4	Pionier-Bataillon 4	4th Engineer Battalion.
2./Pi. 30	2 Kompanie Pionier-Bataillon 30	2d Company of 30th Engineer Battalion.
Pi. Lehr-und Vers. Btl. 2	Pionier Lehr-und Versuchs-Bataillon 2	2d Engineer Training and Experimental Battalion.
Po. Sch. II	Pionierschule II	2d Engineer School.
Pi. Ub. Pl.	Pionierübungsplatz	Engineer training area or ground.
P.K.	Propaganda-Kompanie	Propaganda company.
Pkw.	Personenkraftwagen	Motor car.
P. S.	Pferdestärke	Horsepower.

Abbreviation	Signification	Translation
Pz. Abw. Abt. 4.	Panzerabwehr-abteilung 4	4th Antitank Battalion.
2./Pa. Abw. Abt. 7.	2. Kompanie Panzerabwehr-Abteilung 7	2d Company of 7th Antitank Battalion.
Pz. B.	Panzerbüchse	Antitank rifle.
Pz. B. Tr.	Panzerbüchsentrupp	Antitank rifle section.
II. Pz. Brig.	II. Panzer-Brigade	2d Tank Brigade.
2 Pz. D.	2. Panzerdivision	2d Armored Division.
Pz. Jg. Abt.	Janzerjäger-Abteilung	Antitank battalion.
Pz. Kpf. Wg. or Pz. Kw.	Panzerkampfwagen	Tank.
Pz. Rgt. 1.	Panzer-Regiment I	1st Tank Regiment.
II./Pz. Rgt. 4	II. Abteilung Panzer-Regiment 4	2d Battalion of 4th Tank Regiment.
I./Pz. Rgt. 5	1. Kompanie Panzer-Regiment 5	1st Company of 5th Tank Regiment.
Pz. Sp. Wg.	Panzerspähwagen	Armored car.
Qu.	Quartier	Quarters.
	Quelle	Spring; source.
R.	Regiment	Regiment.
	Ruine	Ruin.
I (r) A. Abt.	I (reitende) Artillerie-Abteilung	1st Horse Artillery Battalion.
R. A. D.	Reichsarbeitsdienst	National Labor Service Corps.
Radf.	Radfahrer	Bicyclist.
Rem.	Remonte	Remount.
Res.	Reserve	Reserve.
R. G. St.	Regimentsgefechtstand	Regimental command post.
Rgt.	Regiment	Regiment.
Rittm.	Rittmeister	Captain of Cavalry.
R. K. O.	Regiments-Kommando-Ordnung	Regimental order.
R. L. B.	Reichsluftshutzbund	National Air Defense League.
R. O. A.	Reserveoffizier sanwärter	Candidate for a commission in the Reserve.
R. R. 2.	Reiter-Regiment 2	2d (horse) Cavalry Regiment.
R. St.	Regimentsstab	Regimental staff.
S.	See	Lake.
	Sanitäts-	Medical.
s.	schwer	Heavy (medium in case of artillery weapons).
S. A.	Sturmabteilung	Storm Trooper detachment (National Socialist Party).
San.	Sanitäts	Medical.
S. B.	Soldbuch	Identification book and service record.
Sch.	Schütze	Rifleman, private.
Schiesspl.	Schiessplatz	Range.
III Sch. Brig.	III Schützen-Brigade	3d Motorized Rifle Brigade.
Sch. Rgt. 2.	Schützen-Regiment 2	2d Motorized Rifle Regiment.
I/Sch. Rgt. 2.	I Bataillon Schützen-Regiment 2	1st Battalion of 2d Motorized Rifle Regiment.
s. F. H.	schwere Feldhaubitze	Medium field howitzer.
s. I. G.	schweres Infanteriegeschütz	Heavy Infantry gun.
S. K.	Schnellfeuerkanone	Quick firing gun.
S. Kp.	Sanitätskompanie	Medical company.
S. Kol.	Sanitätskolonne	Medical column.
S. M. Tr.	Schallmesstrupp	Sound ranging platoon.
Sp.	Spitze	Point (of advanced guard).
Spielm.	Spielmann	Bandsman.
S. S. or	Schutz-Staffeln	Elite troops of the NSDAP.
St. III A. R. 7	Stab III Abteilung Artillerie-Regiment 7	Headquarters, 3d Battery of 7th Artillery Regiment.
ständ	Ständig	Permanent.
St. B.	Steinbruch	Quarry.
Stell.	Stellung	Position.
St. I. R. 12	Stab Infanterie-Regiment 12	Headquarters, 12th Infantry Regiment.
St. K.	Strassenkommandantur	Road traffic control headquarters.
St. O.	Standort	Location, garrison.
St. o. (Art., Mag., Nach., etc.)	Stabsoffizier (der Artillerie, Maschinengewehrtruppen, für Nachrichtenverbindungen, etc.)	Staff officer for artillery, machine gun troops, communications, etc.).

Abbreviation	Signification	Translation
St. Pi. 12	Stab Pionier-Bataillon 12	Headquarters, 12th Engineer Battalion.
St. R. R. I.	Stab Reiter-Regiment 1	Headquarters, 1st (horse) Cavalry Regiment.
stv.	stellvertretend	Deputy.
S. W.	Scheinwerfer	Searchlight.
T.	Teich	Pond.
	Turm	Tower.
Tamb.	Tambour	Drummer.
Teno.	Technische Nothilfe	Technical Emergency Corps.
Tr.	Trupp	Platoon.
Tromp.	Trompeter	Trumpeter.
Tr. Ub. Pl.	Truppenübungsplatz	Training area.
T. V.	Totenkopfverband	Concentration camp guard unit.
T. V. P.	Truppenverbandplatz	First Aid Station.
V. Abt.	Vermessungs-Abteilung	Survey (mapping) unit.
Vb. G.	Verbindungsgraben	Communication trench.
verst. Regt.	verstärktes Regiment	Reinforced infantry regiment.
Vert.	Verteidigung	Defense.
Verw.	Verwaltung	Administration.
viersp.	vierspännig	Four-horse.
Vorh.	Vorhut	Advance guard.
V. T.	Verfügungstruppe	Permanently militarized S. S. troops.
Wa. A.	Heereswaffenamt	Army Ordnance Office.
Wffm.	Waffenmeister	Ordnance sergeant.
Wkr.	Wehrkreis	Corps area.
W. L.	Wiederstandslinie	Line of resistance.
Zahlm.	Zahlmeister	Finance officer.
z. b. V.	zur besondern Verwendung	For special employment.
Z. Zg.	Zug	Platoon or equivalent unit.
Zgf.	Zugführer	Platoon commander.
z. V.	zur Ver fügung	Available.
Zweisp.	zweispanning	Two-horse.

Coinage, Weights, and Measures

(Note: The metric system is employed in Germany.)

Coinage.—*a.* The basic unit is the mark. At par—

1 mark = $0.24.

100 pfennigs = $0.24 (approximately.)

b. The gold Reichs mark at last quotation before the blocking of credits was $0.40 to the dollar.

c. There are other types of marks, such as the Travel Mark, valued roughly from $0.08 to $0.27.

Weights—*Solid*

1 gram=	.035	oz.	
1 kg.=	2.204	lb.	
1 metric ton=	.984	ton	
1 oz.=	28.34	grams	
1 lb.=	453.58	grams	
1 cwt.=	50.802	kgs.	
1 ton=	1,016.04	kgs.	

Liquid

1 liter= 1.76 pints. or .22 gals.

1 gal.= 4.54 liters.

1 pint= .567 liters.

Measures—*Linear*

.1	cm.=	.0393	in.
.792	cm.=	.311	in.
1	cm.=	.393	in.
1.32	cm.=	.518	in.
2	cm.=	.79	in.
3.7	cm.=	1.45	in.
4.7	cm.=	1.85	in.
7.5	cm.=	2.95	in.
7.7	cm.=	3.03	in.
8.1	cm.=	3.16	in.
8.8	cm.=	3.46	in.
10.5	cm.=	4.14	in.
15	cm.=	5.91	in.
17	cm.=	6.69	in.
21	cm.=	8.26	in.
28	cm.=	11.02	in.
30.5	cm.=	11.99	in.

Measures—*Linear*—Con.

35	cm.=	13.75	in.
38	cm.=	14.93	in.
42	cm.=	16.50	in.
1	meter=	1.09	yds.
1	km.=	1093.6	yds.
303	in.=	.77	cm.
38	in.=	.96	cm.
5	in.=	1.27	cm.
1	in.=	2.54	cm.
1.57	in.=	4	cm.
3	in.=	7.62	cm.
3.3	in.=	8.38	cm.
3.45	in.=	8.76	cm.
3.7	in.=	9.39	cm.
4.5	in.=	11.43	cm.
5	in.=	12.7	cm.
5.16	in.=	13.1	cm.
6	in.=	15.24	cm.
7.85	in.=	19.93	cm.
8	in.=	20.32	cm.
9.2	in.=	23.37	cm.
1	ft.=	30.48	cm.
1	yd.=	.914	meters
1	mile=	1.609	km.

Area

1 hectare=2.47 acres

1 sq. km.= .386 sq. mile or 100 hectares.

1 sq. mile 2.58 sq. km. or 258 hectares.

Convenient Approximate Conversions

Centimeters to inch.—Multiply by 4 and divide product by 10.

Meters to yards.—Add 10 per cent to the number of meters.

Kilometers to miles.—Divide the number of kilometers by 8 and multiply the result by 5.

Liters to pints—Add 75 per cent to the number of liters.

Kilograms to pounds.—Double and add 1/10 of the figure arrived at.

A Solution

(*Concluded from page 79*)

1. *a.* Class III. *b.* Class I. *c.* Class II. *d.* ClassV. *e.* Class IV.

2. Expendable supplies are articles that are "consumed" in the maintenance and upkeep of the public service, such as foot powder, oil, paint, forage, rations, fuel, cleaning, and preserving materials, etc.; and articles used to repair or complete other articles and which thereby lose their identity, such as spare parts and repair parts or assemblies.

Nonexpendable supplies are those of a permanent or semipermanent nature, and of such character that they do not lose their identity through use, such as typewriters, motor vehicles, etc.

3. Type "B" ration is the same as Type "A" except that canned or dehydrated substitutes replace the perishable items. It is suitable as a reserve ration.

4. Type "C."

5. *a.* Railhead distribution. *b.* Unit distribution. *d.* Dump distribution.

6. Upon the previous day's consumption and according to anticipated operation.

7. War Department Circular No. 255, 1941, allows three gallons per heating unit per day.

8. It is the function of each element in the supply chain to push supplies forward, within reach of elements in front. However, each commander is responsible for making his requisitions known to higher authority and for making necessary arrangements for drawing and distributing supplies allocated to him.

9. S-4.

10. A refill of that ammunition carried on the individual or with the gun is normally carried with the unit train, except that no additional ammunition is carried for scout cars and train defense weapons. With the division train is carried a refill of the ammunition in the unit ammunition trucks, plus a one-half refill of ammunition for scout cars and train defense weapons.

MODERN MILITARY DICTIONARY

By GARBER and BOND

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Ten Thousand Technical and Slang Terms of Military Usage

A

Abatage. A piece is said to be in abatage when the wheels rest on the brake shoes. A demolition by high explosives.

Abatis. An obstacle consisting of trees felled or placed with their tops to the front, often interlaced with barbed wire. A live abatis is one consisting of saplings bent to the ground but not cut, so that the leaves do not wither.

Abnormal Shot. A shot whose point of impact is more than six probable errors from the center of impact.

About Face. A facing to the rear in the School of the Soldier, executed by turning to the right.

Abreast. Said of a line of men or units, side by side. Equally advanced. On the same front.

Absent Without Leave. Absence from post or duty without permission from proper authority and when there is no intention of deserting. Abbreviated, A.W.O.L.

Addenda, Modern Slang

J

Jake. All right, in good order.

Jam Pots. Small bombs made of jam or other tin cans.

Java and Side Arms. Coffee with cream and sugar.

Jawbone. Credit; to buy without money; to fire a weapon over a qualification course when it does not count for record.

Jawbone Corporal or Sergeant. An acting corporal or sergeant.

Jazzing It. Diving close to the ground with an airplane.

Jeep or Jitterbug. A reconnaissance car.

The Cavalry Journal

1719 K Street, N.W. Washington, D. C.

Book Reviews

THEY WERE EXPENDABLE. By W. L. White. Harcourt, Brace and Company, New York. 209 pp. $2.00.

Every man and woman in America should read this book and weep and pray—weep for the complacency at home that allowed it to happen and pray that it never be repeated in our history.

This is the story of Motor Torpedo Boat Squadron 3—seventy-eight hand picked volunteers who went to the Philippines in the late summer of 1941, and were part of those "expended" in the struggle to hold the islands against the Japs. The story is told by four of the five survivors, now back in this country after taking General MacArthur safely out of Bataan. In the background of the account of their adventures and exploits runs the whole tragic panorama of the Philippine Campaign—the hopelessness and flaming courage of troops with inadequate equipment, too little training, no chance of retreat, and *no help from home.*

"You don't understand," says one of the young naval officers whom Mr. White quotes, "We were expendable . . . it's like this. Suppose you're a sergeant machine-gunner, and your army is retreating and the enemy advancing. The captain takes you to a machine gun covering the road. 'You're to stay here and hold this position,' he tells you. 'For how long?' you ask. 'Never mind,' he answers, 'just hold it.' Then you know you're expendable. In a war, anything can be expendable—money or gasoline or equipment or most usually men. They expect you to stay there and spray that road with steel until you're killed or captured, holding up the enemy for a few minutes or even a precious quarter of an hour. You know the situation. . . . So you don't mind it until you come *back here where people waste hours and days and sometimes weeks,* when you've seen your friends give their lives to save minutes."

HISTORY OF THE UNITED STATES ARMY. Revised edition, 1942. By Colonel William Addleman Ganoe. D. Appleton-Century Co., New York. $5.00.

This is an authoritative book that is at the same time exciting reading. In reality, it is a story of our Army as an agency of our nation and the history and growth of the two. The revised edition brings the Army's record up to the fall of Bataan on April 9, 1942 and draws the following conclusion:

"'To maintain in peace a needlessly elaborate military establishment entails economic waste. But there can be no compromise with minimum requirements. In war there is no intermediate measure of success. Second best is to be defeated, and military defeat carries with it national disaster—political, economic, social and spiritual disaster.'

"Those were the words of MacArthur in 1935. Those were the ideas we were then too busy to notice. Those were the sores in the hearts of the surviving little band of Bataan."

THE ARMY MEANS BUSINESS. By Herbert Corey. Bobbs-Merrill Company, Indianapolis, Indiana. 298 pp. $2.75.

This book is the story of a miracle—a miracle that is happening so fast that before the book is off the press (September 25th) in several spots it is already out of date. It is the story of the conversion of a nation from luxury to war; from automobiles and washing machines, to planes, tanks and guns. It is the story of the growth of an army that is destined to be the finest fighting force in all history—how it is organized, what it fights with, where and how it lives, and how it gets from here to there.

Cavalrymen will be particularly interested in the chapter entitled, "Giving the Horse a Chance." In this chapter many figures and incidents are quoted from General Herr, General Hawkins, and The Cavalry Journal regarding the use of horses by foreign armies, the number available in this country, and the difficulties that the Germans have met from Russian cavalry since 1941.

Many phases of America's great new army—tanks, trucks, guns—men, health, communications are written about in such a fast, delightful manner that the book reads more like a modern version of *Aladdin's Lamp* than a mere collection of figures and facts.

ENGINEERS IN BATTLE. By Lieutenant Colonel Paul W. Thompson, Corps of Engineers. Military Service Publishing Co., Harrisburg, Pa. 108 pp. $1.50.

This is not a theoretical treatise on imaginary engagements. It is a brilliant and penetrating account of German Engineer troops in action—in front of the Maginot Line, in Poland, in France and in the Low Countries—their successes, their failures, their methods, their superhuman organization, their human weaknesses.

Engineers in Battle might be called a "preview of the Allies' Second Front" because not only is the German Engineer Corps the equivalent of the American Rangers, and the British and Canadian Commandos, but the terrain to be taken is the same except approached from the opposite side.

From Nazi diaries and official military publications, Colonel Thompson has reconstructed an accurate, factual and exciting account of the rôle of specialized raiders in modern warfare.

THE GUILT OF THE GERMAN ARMY. By Hans Ernest Fried. The Macmillan Company. New York. 426 pp. $3.50.

The author herein traces the rise of National Socialism, its heritage from the Imperial Officers' Caste, and its expansion into National Socialist Militarism.

Dr. Fried, himself a refuge from Austria, explains the German indoctrination that the outcome of the First World War was but a "temporary, false verdict of history" and that the present war is but a continuation of that struggle. "In destroying our long-accepted belief that Hitler and the Army are hostile to each other, he performs an imperative service; for in the assumption that Hitler alone is responsible for this second conflict, lies the great danger of still another falsely concluded and futile peace."

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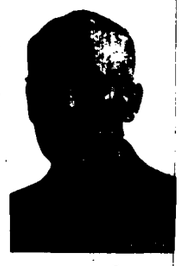

At present Major Fairbairn is in the United States, on loan from the British Army, teaching close-combat to instructors of the U. S. Armed Forces.

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—See last page, this issue.

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GLOBAL WAR: An Atlas of World Strategy. By Edgar Ansel Mowrer and Marthe Rajchman. William Morrow & Company. New York. 127 pp.; 70 Maps; Size, 8" x 10½". $1.00.

Illustrated by adequate maps and texts, *Global War* is introduced with an explanation of the Great Powers—Great Britain, the United States, the U.S.S.R., Japan, France, Germany, Italy—their geography, boundaries, and possessions.

Then follows a complete picture of the distribution of the world's:

(1) *Manpower* (available fighting men and war workers).

(2) *Wealth* ("in war, money talks twice as loud").

(3) *Raw materials* (who controls which vital supplies).

(4) *Food* (where the "must" foods grow).

(5) *Gold reserves* (the U. S. A. has most of the world's gold—"When one player has all the chips they cease to count").

(6) *Income* ("more than one-half of the earth's inhabitants have a living standard one-seventh or less of that of the U.S.A.").

Maps, charts and text further elaborate on *trade routes*, by which ships, planes, armies and supplies get from one part of the world to another; *communications;* possible *routes for entering and crossing each country;* and *natural routes of invasion.*

This graphic and convenient atlas is a valuable sidetable reference for your daily war news.

PRINCIPLES OF WAR. By General Carl von Clausewitz. Military Service Publishing Co., Harrisburg, Pa. 82 pp. $1.00.

This small book is a summary of the basic theories on which German militarists, from King Frederick William IV, of Prussia, to Adolph Hitler, have waged war against Europe. General von Clausewitz wrote it for King Frederick William, condensing herein *all* of the principles and maxims that he subsequently expanded in his monumental three-volume work, *On War*, now out of print in the English translation.

Translated by Hans W. Gatzke of Williams College, this small compact volume contains the blueprint from which Nazi Germany has developed the present total war. It is well worth any officer's time and money.

SCHOOL FOR THE CITIZEN SOLDIER. Adapted from the Educational Program of the Second Army. Lieutenant General Ben Lear, Commanding. D. Appleton-Century Co., New York. 532 pp. $3.00.

This book is indeed an educational program and contains a wealth of valuable background in geography, world trade, and history, as well as a thorough study of the organization, leadership and tactics of the principal armed forces of the world. Much ingenuity has been shown by many instructors in the preparation of this single volume that is actually encyclopedic in scope.

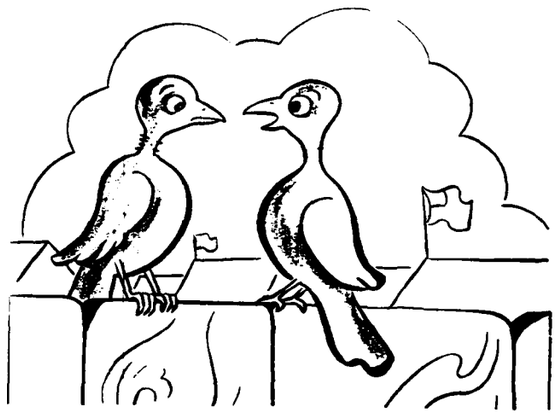
Horse Feathers

"Thank You" Letter

Dear Aunt Enna:

I want to thank you for the lovely red and white tie you sent me to go with my uniform. As you remember I wore it when you visited me here in camp. Please address all your future letters here to me in the Guard House.

Affectionately your Nephew.
—Halt.



"I'm going to join up with a cavalry unit!"
—Smiles

THE LORD GAVE US TWO ENDS TO USE,
ONE TO THINK WITH; ONE TO SIT WITH;
THE WAR DEPENDS ON WHICH WE CHOOSE,
HEADS WE WIN; TAILS WE LOSE.

SERGEANT (to cavalry recruit): "You have improved your riding lately."

RECRUIT (looking up at horse): "On the contrary, I would say that I've fallen off quite a bit."

HOTEL CLERK: "Inside or outside room, sir?"
RECRUIT ON LEAVE: "Inside—it looks like rain."

Not Interested

A truck driver with the Desert Training Corps got into conversation with an old gent at a filling station near camp:

"Hmm," said the soldier, "looks like we might have some rain."

"Could be," drawled the oldtimer. "I shore hope so. Not for myself, but for the kid here. I've seen it rain."

"Could you give a poor fellow a bite?" asked the dust-stained tramp.

"I don't bite, myself," answered the lady of the house, "but I'll call the dog."

Heard in an air-raid shelter:

"Is there a macintosh in here that's large enough to keep two young ladies warm?"

"No, but there's a MacPherson who's willing to try," was the reply from a dark corner.

Now that we're saving all the metal we can, let's get the lead out of our pants.

MacTavish Conserves Metal

Recruit MacTavish appeared for his first riding instruction wearing only one spur. Upon being questioned by the instructor as to the reason for this MacTavish replied, "Well, sir, if one side of the horse goes, the other side is bound to follow."

Most Likely

TROOPER: "By the way, Hostess, who is—or rather was—the God of War?"

CAMP HOSTESS: "I've forgotten the trooper's name, but I think it was Ananias."

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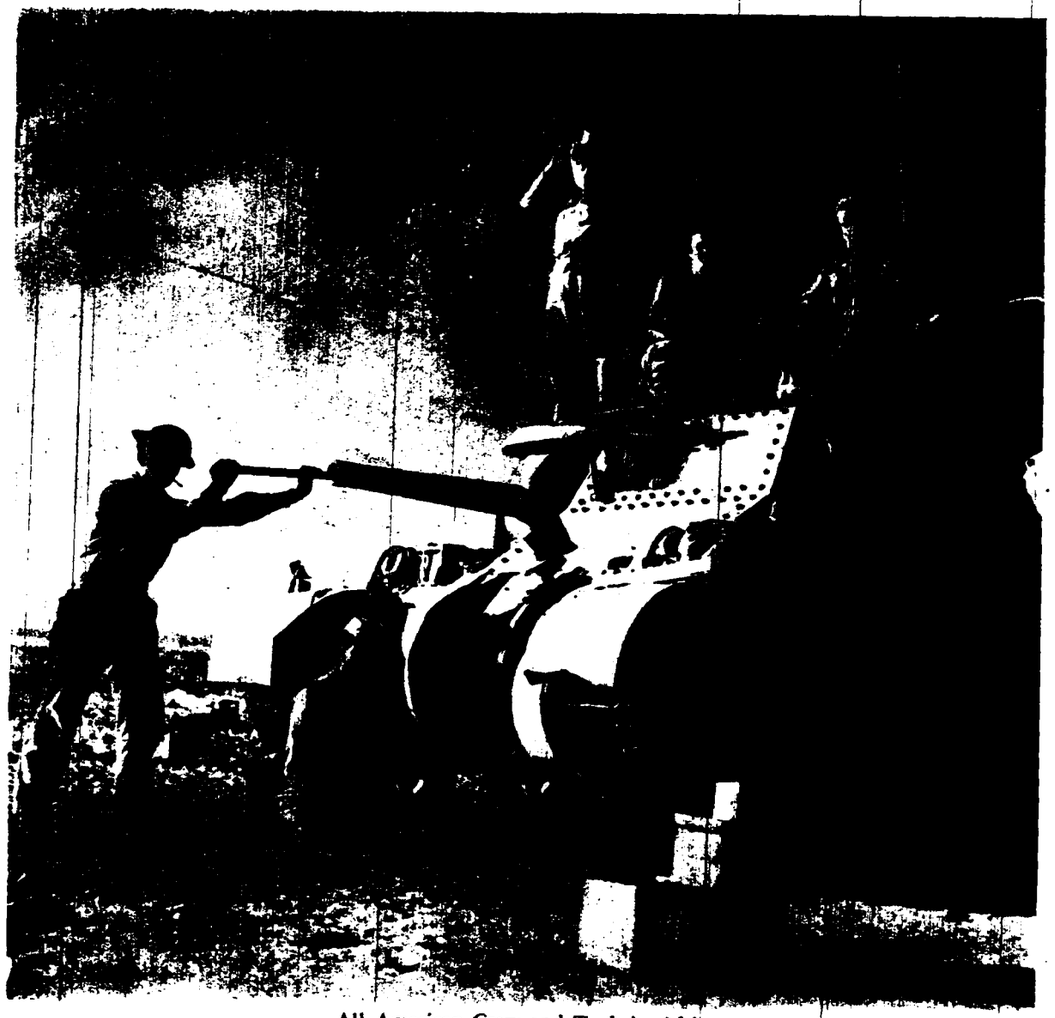

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Volume LI NOVEMBER-DECEMBER, 1942 Number 6

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JAPAN HAS NO ROAD BACK

By Lieutenant Colonel C. Stanton Babcock, (Cav.) G.S.C.*

IN all their articles and speeches relating to the war, Japanese, both military and civilian, have stressed certain factors which, in their opinion have been responsible for their successes. These range all the way from praises of the "august virtues of His Imperial Majesty" to accounts of the careful planning of the staffs and the rigid training undergone by both services in preparation for the campaign. Many of the reasons offered in explanation will seem invalid to Americans who are not familiar with Japanese psychology, but all are important to themselves, and a true understanding of what sustains their morale is impossible unless due consideration is given to those intangible factors which weigh so heavily with the Japanese.

Much has been written in the past about Japanese *seishin* or spirit, and there has been a tendency among Westerners to discount its value, especially in recent years after Japan's military machine became bogged down in China. It would be a grave mistake, of course, to accept the Japanese belief that their particular brand of spiritual training turns out men of superhuman courage and devotion to duty, but it should be recognized that it has developed an extraordinary confidence in the armed forces, both among service personnel and among the people at large. Constant repetition of the simple tenets of this particular brand of propaganda, aided by the close integration of the army with village and family life, has built up a unity of ideas and ideals throughout the Empire that is paying big dividends in the present crisis. This deep-rooted confidence in the abilities of the individual Japanese soldier has done much to offset the inferiority complex prevalent among the Japanese for many years in regard to the technical superiority of the Western powers. Official propaganda and war news are designed to foster this spirit of trust, and great care is exercised to see that no intimation of any military setback ever reaches the ears of the people at home. The initial sweeping successes of their armies and fleets have served to dispel any doubts which might have lingered in the minds of the unregenerate few. The war spirit and morale of the people were higher in the summer of 1942 than ever before. *Yamato Damashi* —the Spirit of Japan—is no longer simply a slogan for patriotic spell-binders; it has entered deeply into the lives of large sections of the people.

The authorities have used the China Incident, admittedly unpopular from the start, to prepare the country—militarily, economically, and spiritually—for war. Restrictive measures which would have caused undue hardships and considerable unrest if applied suddenly, before the gravity of the situation had become evident to the man in the street, were introduced gradually over a long period of time as the necessity for each further limitation became apparent. The very failure of the war in China was used to prepare the nation mentally, and to induce the populace to accept the idea of total warfare. Much as the people may have deplored the outbreak of the Incident, there was never a moment's doubt in their minds as to how it must end. As the realization came home to them of the need for greater and greater efforts they accepted the inevitable reorganization of the country's life with characteristic calmness and quiet determination. Three years of clever and incessant propaganda, coupled with the knowledge of American and British aid to the Chungking régime, had convinced the majority of the Japanese people that the two democracies were to blame for the desperate situation in which their country found itself. Gradually the realization was borne in upon them that war with the United States was a possibility, and that if it came every last ounce of the country's effort would be called forth. There are many Japanese persons who would have given a great deal to avoid such a war, but they understood how impossible it was to influence the course of events, and therefore fatalistically conformed the pattern of their lives to the measures required to prepare the country for its supreme test.

This resigned acceptance of the dictates of constituted authority and the lack of outward enthusiasm were mistaken by superficial foreign observers as war weariness and discontent. What such observers overlooked is that even in the most liberal Japanese the emphasis is on the *Japanese*. In the final analysis his loyalty goes unquestionably to his country, and he wastes no time or thought in deploring mistakes made in the past. He knows that, whatever may have been the causes, his country is now fighting for its life and he is ready in every way for total war. As Japanese commentators never fail to reiterate, Japan passed through the period of mental and physical preparation for war during the four years prior to December, 1941, while the United

Japanese troops marching into captured territory.

Japanese landing troops after their invading force has established a foothold.

*EDITOR'S NOTE: Colonel Babcock, formerly attached to the American Embassy, Tokyo, Japan, recently returned to this country on the diplomatic-exchange ship, *Gripsholm*.

States must now make those same adjustments in a far shorter time, with a people much less accustomed to discipline and sacrifice, and under the relentless stress and pressure of actual warfare.

The Japanese point out that during the four years of the undeclared war in China they reorganized the economy of their country, put it on a wartime basis, and actually increased its industrial output manyfold. Budget figures released in the press indicate that only forty per cent of the appropriations voted to the defense forces was expended for the conduct of the China Incident, while sixty per cent was used to prepare the services and the industrial plant for "greater emergencies yet to come." Similarly only one-fifth of the materials and weapons furnished the services was sent to China, the rest being used to expand and modernize the armies and fleets which were to be called upon when war really came. Oversimplified and vague as these figures are, the Japanese nevertheless use them to support their premise that the war in China has left Japan stronger rather than weaker, and in a better position than ever before to strike at her enemies.

The army used the China war as a test for its tactical doctrines, a proving ground for its matériel, and a training school for its personnel. The constant rotation of officers and men through the ranks of the active divisions on the China front has built up a magnificent reserve of men with combat experience. Many of these were used as nuclei in the formation of new divisions, so that when the war began all of Japan's combat troops contained at least a core of seasoned veterans.

The units and commanders designated for the various tasks in the war for which they were preparing were selected months in advance and concentrated in special training areas where the terrain and the climatic conditions approximated those in the regions where they were to fight. The Malayan army trained in Hainan and Indo-China, the Philippine force in Formosa, while both units practiced landing operations during the late summer and fall of 1941 along the South China coast. Even the divisions chosen to attack Hongkong were given rigorous training in night fighting and in storming pillboxes in the hills near Canton. So realistic was this training that the troops are reported to have suffered "a number of casualties." This kind of training sent the Japanese armies into the

Japanese tanks parade through Tokyo streets prior to embarkation to an unknown battle front.

Japanese Navy display during celebration of anniversary of Nippon Empire.

field fully cognizant of, and excellently prepared for the specific tasks they were to perform, and organized and equipped with superabundant strength to overcome the degree of resistance which they knew they could expect.

Japanese commentators make no secret of the fact that the High Command was fully informed for a period of a year before the war as to the strength, dispositions, and likely plans for defense of their then potential enemies. They say they gathered a good deal of this information by "observing" (probably through secret agents) maneuvers in the Philippines and in Malaya. With all this information in their possession the Japanese were able to make detailed plans for attack, and to estimate accurately the number of men and the types and quantity of weapons, matériel, and supplies that their armies would need in each of the theaters of operations.

The extent of knowledge of the enemy situation was freely published in Japan, after the conclusion of the initial campaigns, in an effort to impress upon the public the need for strictest observance of their own *Military Secrets Act*. This law, which is probably the most airtight ever enacted, is credited with having been responsible for the element of surprise with which Japan overwhelmed her enemies. The authorities draw striking contrasts between the secrecy which shrouded every Japanese movement and the "boastful and stupid publicity indulged in by the ABCD Powers."

Considerable use was made of propaganda which the Japanese euphemistically termed "informing the oppressed inhabitants of the Co-Prosperity Sphere of Japan's peaceful intentions." Great claims were made for the success of this campaign, and the Japanese people were regaled over and over again with descriptions of the throngs of happy natives who turned out to welcome the Nipponese troops wherever they advanced. Personal experience accounts bear out these claims to some extent, particularly in Burma and the northern Malay states where anti-British feeling appears to have been particularly intense.

The Japanese make a great point of the fact that their army considers no terrain "impassable." They assert that their tactics were frequently based on the principle of attacking through such an area in the knowledge that their enemies had been lulled into a false sense of security and complacency by the very fact of its so-called impassability. They emphasize also the disastrous effect on the defenders' morale once an "impregnable" area has been pierced. Here they frankly admit the tutelage of the Germans who, frequently since the spring of 1940, have shown the world how often the Allied com-

manders had mistaken terrain which is merely *difficult* for that which is *impassable*.

Another important factor which the Japanese have kept constantly in mind is the prime importance of air superiority. Admitting frankly their enemies' greater power in the air if the entire world situation is taken into account, they knew nevertheless that they could seize, and maintain for a long time, command of the air in East Asia, and from the very beginning they directed all their energies to that end. Air force units, of both the army and the navy, concentrated their strength against enemy airfields, and not until the opposing air strength was thoroughly crushed was any considerable part of the Japanese air force diverted to other missions. Whenever the enemy managed to reinforce or reconstitute his battered air units in any particular area, the Japanese air force immediately returned to its primary mission and stayed with it until unquestioned command of the air was once more achieved.

Their use of dive and light bombers as a kind of long-range artillery was closely patterned on German tactics, as the Japanese themselves admit; and it was especially effective in the early stages of the Malayan campaign where the terrain made observation difficult and the emplacement of large numbers of artillery batteries virtually impossible.

There was, according to all accounts, excellent co-operation between the land and sea forces and the air arm of both services. Whatever traditional jealousy that might have existed between the army and the navy, it did not extend to the armies and fleets at the front. The teamwork left nothing to be desired. "Task forces," organized during the summer of 1941, trained and worked together continuously until the outbreak of hostilities. Four years of frequent collaboration against an active enemy on the coasts and rivers of China had given both services much valuable experience, which was put to good use in planning and organizing their joint expeditionary forces. Details of command, supply, and other matters which might have given rise to controversy were carefully worked out in advance and clearly understood by all concerned.

The most important factor contributing to their victories, according to all Japanese military commentators, and the one which carries the most weight with the outside observer, is the superb offensive spirit which permeates all of the armed forces of the Empire. This spirit, recognized by all competent military men as the most vital intangible factor in achieving victory, has been nourished and perpetuated since the foundation of the modern Japanese Army until it has become a veritable fetish to all ranks. The High Command has counted heavily on the advantages this would give them over their less aggressive enemies. They were well aware of the psychological effect produced on the British, Dutch, and Americans by their reliance on defense.

Japanese forces consolidate their lines of communication.

Jap Machine-Gunners in action on Chinese front.

They put great store in the "flabbiness produced in the white man after nearly a century of easy and luxurious rule in the Far East." They attach great importance to the former disunity in the United States over the war issue, and count on an appreciable interval before an aroused nation can find itself and develop a fighting spirit of its own. By that time, they feel, Japan will be in complete control of all of East Asia.

They balanced all those factors against Japan's hard, aggressive spirit, and they found the scales tipped deeply in their favor. And when they struck they made no provision for failure and left no road open for retreat. They struck with all the force and power at their command, risking all on one magnificent gamble. And they will continue to fight in the same manner. In the words of their leader, Premier General Tojo, "Japan has no road back. She must and will continue to attack with every ounce of strength of her hundred million people until the British Empire and the United States are crushed forever."

"The defeat of Japan will be a long process, but it can be expedited by taking thought. That means, to begin with, realizing the true dimensions of the problem the Japanese have set us, getting rid of our illusions, and trying, so far as we can, to enter into the Japanese military mind. There are men in the State Department and in the United States Embassy at Tokyo who have a good notion of how that mind works.

"The Japanese Naval General Staff has checked and re-checked all its calculations of the military problems. Every detail that could be foreseen, every development that could be imagined, have been provided for. Their plans are as complete as such plans can be. But wars are not won by plans alone. In the end it is mind against mind, will against will."—*The Japanese Enemy*, by HUGH BYAS.

A Study for G-2's and S-2's

German's War Machine

*By Lt. Col. John R. Lovell, C.A.C.**

THE G-2 or S-2 is the Commander's expert consultant on the enemy. It is the duty of the intelligence officer to be familiar with all things pertaining to the enemy and to think in terms of the enemy. When the enemy is about to initiate an operation or take on military action, the intelligence officer should be the first to give timely warning to the Commander concerned.

The purpose of this article is to present an outline of the essential informaiton regarding the organization, tactics, and strategy of the German Army that the combat intelligence officer should know.

The strategic and tactical principles described here also apply to the Japanese, who have modeled their military employment after the Germans. (Japan and Germany exchanged military missions many months before the Japanese attacked the United States last December.)

The methods of German military employment are simple and, at the same time, quite flexible. They must be simple in order that the mass development and training of military leaders be possible; and they must be flexible in order that a satisfactory solution may be had for all the situations they have encountered. Without an explanation of their methods, their entire military system is quite confusing unless their organization and command methods, as well as their tactical and strategical principles, are understood.

German military organization is based on the Einheit System. By this method, pools of basic units are mobilized. In a larger sense, these basic units are the various types of divisions and GHQ organizations.

According to the estimated needs, units are taken from the pools to form task forces. They are assembled and trained in areas resembling as closely as possible those in which they are expected to engage in combat. They are molded into smoothly-functioning, hard-hitting combat teams for the accomplishment of specific tasks.

When the units from the pools are allotted to a task force, they are placed under one commander. Elements from all branches of the service—that is, Army, Navy, and Air Force—function together in the same task force under one commander as if they all wore the same uniform. Rivalry between the components of the task forces is discouraged rather than encouraged. All leaders encourage and inspire every individual with the idea that all must work for the common good of the entire combat team.

The term, task force, is used frequently to designate many different kinds of forces. To the German, a task force has a very definite meaning. The task force is a military force composed of the necessary arms and services under one commander for the accomplishment of a single specified mission.

*Former American Military Attaché, Berlin, Germany

Red Army in a savage counteroffensive forces Germans to fall back.

German task forces vary in size from a squad to a group of armies. Examples of task forces are *Oberst* (Colonel) Mikosch's reinforced pioneer battalion which captured Fort Eben Emael in Belgium and later broke through the Maginot Line near Saarbruecken; Rommel's corps in North Africa; von Falkenhorst's command in Norway; and von Brauchitsch's army groups in Poland, the West and the East.

With regard to the manner in which the Germans employ task forces, there are several important features to point out. Almost every German organization in combat is reinforced by GHQ units. This is shown graphically on the organization chart that follows. These units are trained together so they will function well in the confusion of modern combat. All forces engaged on any specific mission are under one commander.

Two or more task forces are never assigned to the accomplishment of an identical mission. This explains why defensive aviation, antiaircraft artillery, civilian air raid defense organizations, and the warning services engaged in the antiaircraft defense of a specific objective are under one commander. It also explains why the coast defense artillery is organically a part of the German Navy.

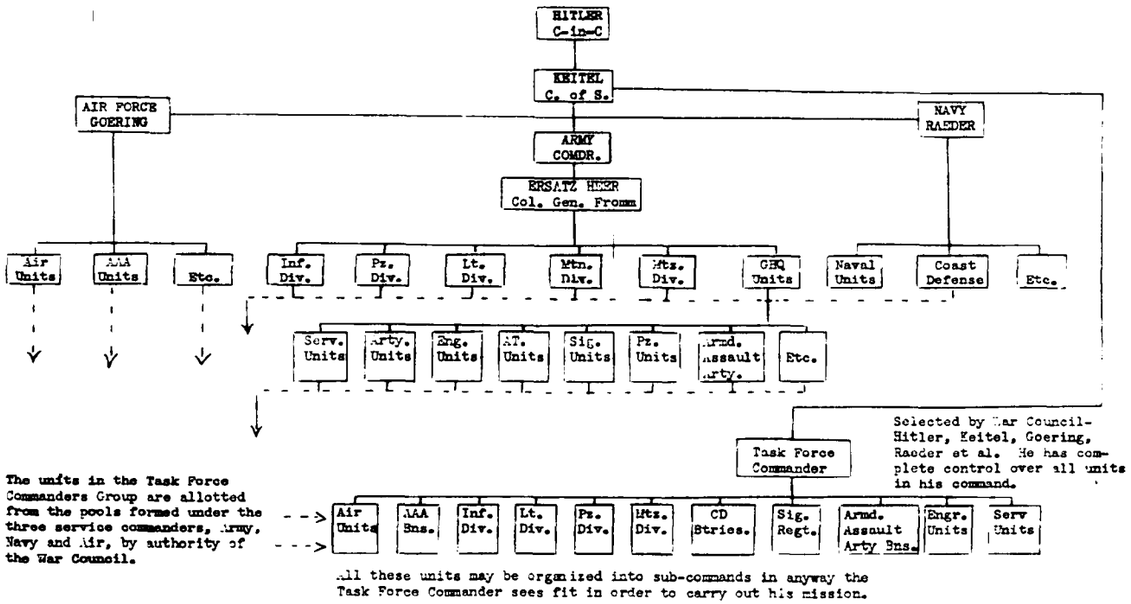
A military commander charged with a definite mission, is in absolute control of all the means to accomplish that mission. He is responsible only to one authority for the outcome and can have no excuse for failure.

A last word about unity of command. American observers on European battlefields have noted that unity of command is a weapon in itself, the same as terrain, weather conditions, and other factors. With a united command on the offensive, an enemy weakness can be exploited in the shortest time with all the resources of the command; on the defense, every resource can be used to meet a military emergency until the time can be gained to resume the attack.

German divisions, corps, and armies are the command framework around which task forces are formed.

The division is a unit of all arms and services under one commander containing the minimum means for the accomplishment of certain types of missions. When the need arises for a new type of division, the German High Command forms it. Thus, we find numerous kinds of combat divisions; panzer, infantry, light, motorized, mountain, border, police, line of communications, and fortress divisions. There may be others. These combat divisions are organized, trained, and equipped for special types of missions. They contain only the minimum needs to sustain themselves in combat under normal conditions.

Corps and armies are merely command skeletons around which larger task forces are built. Organically, these units contain only commanders, staffs, and signal



units. The practice of holding the size of the subordinate units of arms in a standard organization to the minimum is economical as well as effective. It enables the maximum combat power to be applied at the selected vital points while holding units have the minimum needs to perform their missions.

A good example to illustrate the German method of military organization is the way the Luftwaffe handles its air fleets. Germany has organized air fleets in all of the active theaters of war—France and the Low Countries, Denmark and Norway, the Mediterranean and North Africa, on the East Front behind each group of armies and in Germany proper. These air fleets are administrative and tactical organizations. In each air fleet area, there are ground crews and facilities for handling a large number of combat aircraft. Germany's air power is shuttled around these air fleets according to the situation. If a serious air threat loomed in the west, combat aviation could be transferred from the other air fleets to the west on short notice. Antiaircraft organization and employment is identical in principle. There is usually an antiaircraft corps in each air fleet.

A German principle of command is enunciated as follows:

"Select the commander, assign him to the mission, give him the means, and permit him to accomplish the task unhampered."

This is merely another way of phrasing the unity of command and responsibility and the task force principles.

After a commander has been assigned a mission, he selects his staff (which may include members of the Army, Navy, and Air Force General Staffs), adopts a general plan and, from it, prepares a list of means with which to accomplish his task. The main considerations in the preparation of the list of means are:

1. The Mission	(Offensive or defensive)
2. The Enemy	Organization (analyses for weaknesses).
	Strength (particularly in various arms).
	Composition (air power and tanks).
	Morale (Can propaganda be used?).
	Leadership (higher, field, and company grades).
	Dispositions (Where can traps be formed and enemy destroyed?).
3. The Terrain	(desert, swampy, normal, or mountainous.)
4. The Climate, Season and Weather	(Russia in winter or North Africa in summer.)
5. The Time Element	(When must the task be accomplished so that it may be timed with other operations?)
6. The Theater of War	(Long lines of communications. Supply and evacuation problems. Transportation.)
7. The Means Available	(There is never enough air power.)

8. The Judgment of the commander and his staff.
9. The General Plan.

The diagram opposite illustrates the method by which large German task forces are formed.

The German High Command allots the means to the task force commander after a similar consideration of the foregoing factors. When the means are made available, they resemble a college football squad which reports to the coach in the first week of September. They are a squad but not a team.

A German task force prepared for combat is like an Army football team prepared for the Navy game. It is organized, drilled, and trained for the task at hand—to defeat a particular opponent. As a mater of fact, the same considerations outlined earlier for the composition of a German task force may apply equally well for the football team.

When the means are allotted to a task force commander, all or part of them are reallotted to subordinate echelons in accordance with their estimated needs. Thus any standard German unit in combat will normally be reinforced. Intelligence officers can readily understand why the composition of practically every German unit with which they come in contact will be different. The problem then is to probe by aggressive reconnaissance methods to determine what units are opposite, how they are organized, and of what they are composed.

Just a word about the designation of units. The method of allotting numerical designations is without pattern. It is different in almost every case encountered. No deduction based on numerical designations is justified without other supporting evidence.

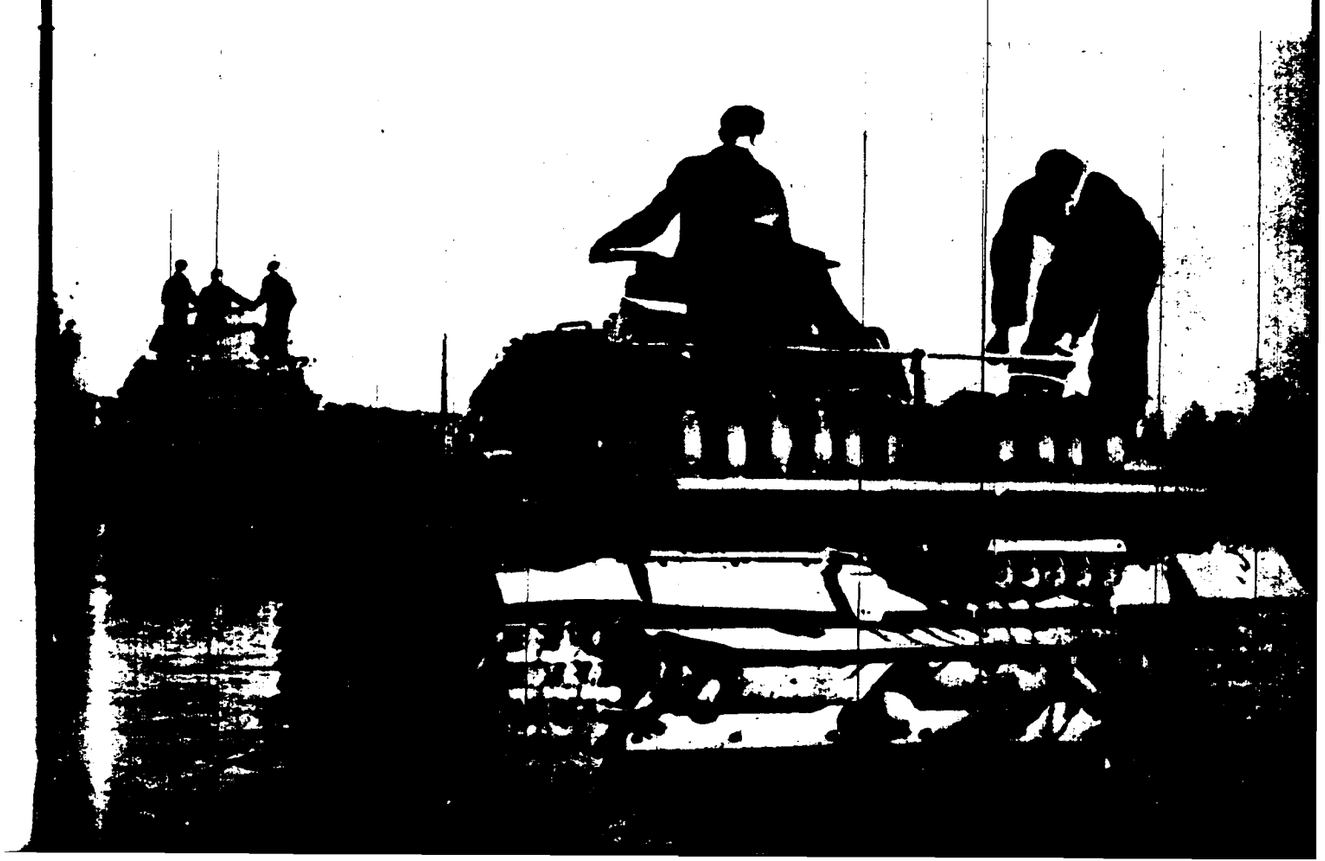
When a standard organization such as a regiment, division, or a corps is not used as the nucleus of a task force, the cluster of units is often called a "Gruppe" [Group (of units)]. Often the name of the commander is attached to identify it.

German strategical and tactical principles are similar. They are based on the principle of annihilation as evolved by von Clausewitz, and as carried into execution by Graf von Schlieffen in his military text book "Cannae."

The principles of war, according to the German conception, are unchanged: the methods whereby they are realized are different.

During World War I, the Germans used the supporting arms to advance the infantry to where it could come to grips with the enemy infantry and destroy it or drive it from the field. In this war, the German supporting arms are used to destroy the enemy without forcing the infantry to engage in combat. The breakthroughs are made by special assault troops (usually pioneers). Air-panzer-motorized infantry teams, pow-

Panzer column fords stream on the Russo-German front.



erfully supported by artillery, blast their way through to make the encirclements; and the annihilations in the traps are accomplished largely by the fire power of the supporting arms. The infantry follows up, holds the ground, and takes charge of the prisoners. Large masses of infantry do not come in contact with each other with the resulting mass slaughter reminiscent of Verdun in the first World War.

No description of German tactics and strategy is complete without special mention of the Principle of Surprise. Measures to achieve surprise are taken in every German military action.

German military texts state that surprise is accomplished:

By secrecy.
By deception.
By speed of execution.

Secrecy and speed of execution are self-explanatory. It is with regard to deception that intelligence officers must be most careful. There is no fixed pattern for deception, and it will be different in almost every instance. Suffice it to say that German commanders take great pains to deceive their opponents in an effort to achieve the maximum surprise effect in conjunction with a later operation.

The German commander utilizes deception to a wide extent in neutralizing his enemy's combat power by diverting it to dummy or unimportant objectives.

The German objective in combat is to destroy the enemy's military force. Every action is directed toward that end. Victory is never a fact until the enemy is destroyed.

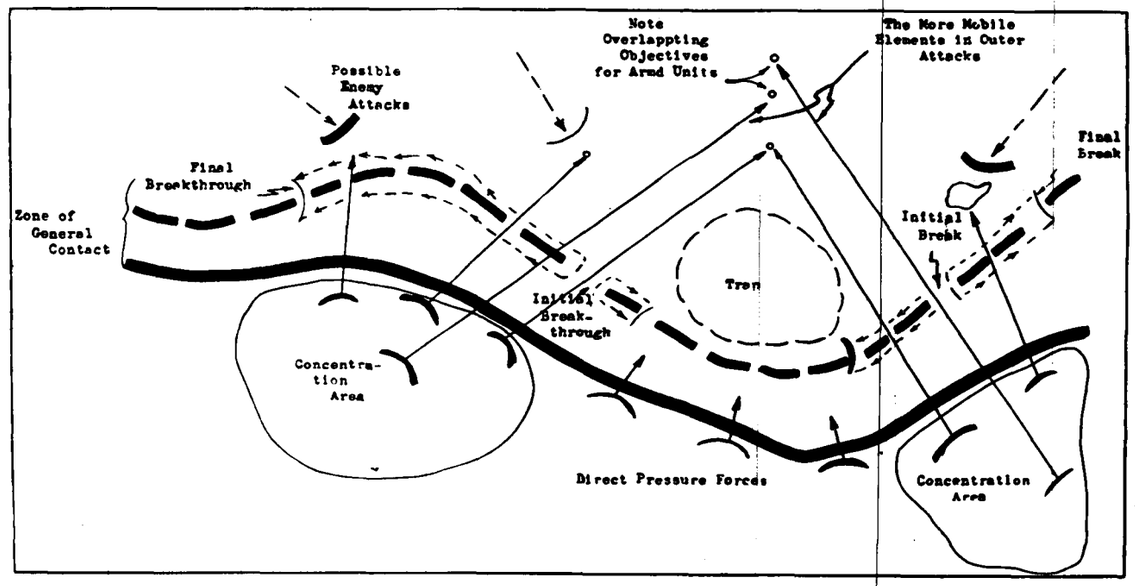
Information of the enemy is vital. Based on this intelligence, decisions are made, plans are formulated, and task forces are organized, equipped, and trained.

Consequently, the Germans place great stress on the functions of their military intelligence service and, in the field, on their reconnaissance agencies.

German reconnaissance units are very aggressive. They are trained in this way in order to obtain specific information and in order to deny information to their opponents (preserve secrecy). These reconnaissance units are often reinforced and will usually attack as soon as contact is established. If the opposition is too strong, they will utilize their mobility—withdraw and go around the position. They habitually report to the higher commanders not only all details as to the enemy but also as to the terrain or any special conditions they encounter.

German leaders of all grades are always well forward where they get the first hand accounts of reconnaissance, where they can get the "feel" of the situation, and where they can issue timely orders to their subordinates for the rapid employment of their units. There is

A wounded Nazi officer giving orders at the front.



Schematic Diagram of A German Attack.

no need to have fast-striking combat commands unless their mobility and shock action are utilized.

As a result of intelligence and reconnaissance activities, the enemy's weaknesses are developed. Deceptive measures are invoked, while overwhelming concentrations of combat power are made at vital points. At the right moment, the breakthrough is made, the encirclement is achieved and the annihilation is accomplished in the shortest possible time.

The description just made of German combat methods is the basis of all of their strategical and tactical doctrines. Those doctrines are practiced in all echelons of command. They may be summarized as follows:

1. Obtain all possible information of the enemy, especially his detailed dispositions.
2. Select weak points where breakthroughs may be accomplished and large enemy forces may be trapped.
3. Concentrate combat power opposite the weak points.
4. Hold the enemy in his position by containing his forces, or draw him out of position as desired by deceptive operations.
5. Breakthrough.
6. Encirclement.
7. Annihilation.

The German commander places great emphasis on the use of terrain. He studies it in great detail in order that he can use it to his advantage. Every effort is made to attack down hill, to employ obstacles to assist in the achievement of his objectives, to obtain the observation required for the effective employment of the supporting arms, and to develop the scheme of maneuver so that his opponent is placed at the maximum disadvantage from a terrain standpoint. Terrain appreciation is an important subject in every German military school.

The breakthrough is usually made by special assault troops. The point of breakthrough is thoroughly neutralized by large concentrations of artillery and air power. The initial breakthrough is normally only 1,000 yards to a mile wide but is immediately widened by attacks from the *rear*.

The encirclement is composed of two spearhead attacks advancing parallel to each other. The outer spearhead is composed of the more mobile elements. Each spearhead is preceded by an air—panzer—motorized infantry team to break the way. The direction of attack is usually a straight line even though the operation is termed an "encirclement." See diagram.

When one flank is an obstacle, as at Dunkirk, the encirclement operation is over one flank only.

The timing of the attacks depends entirely on the situation. In Holland and Belgium, the holding attack was launched first to draw mobile elements into the trap. At Kiev, the holding attack was not launched until the encircling forces had reached their objectives.

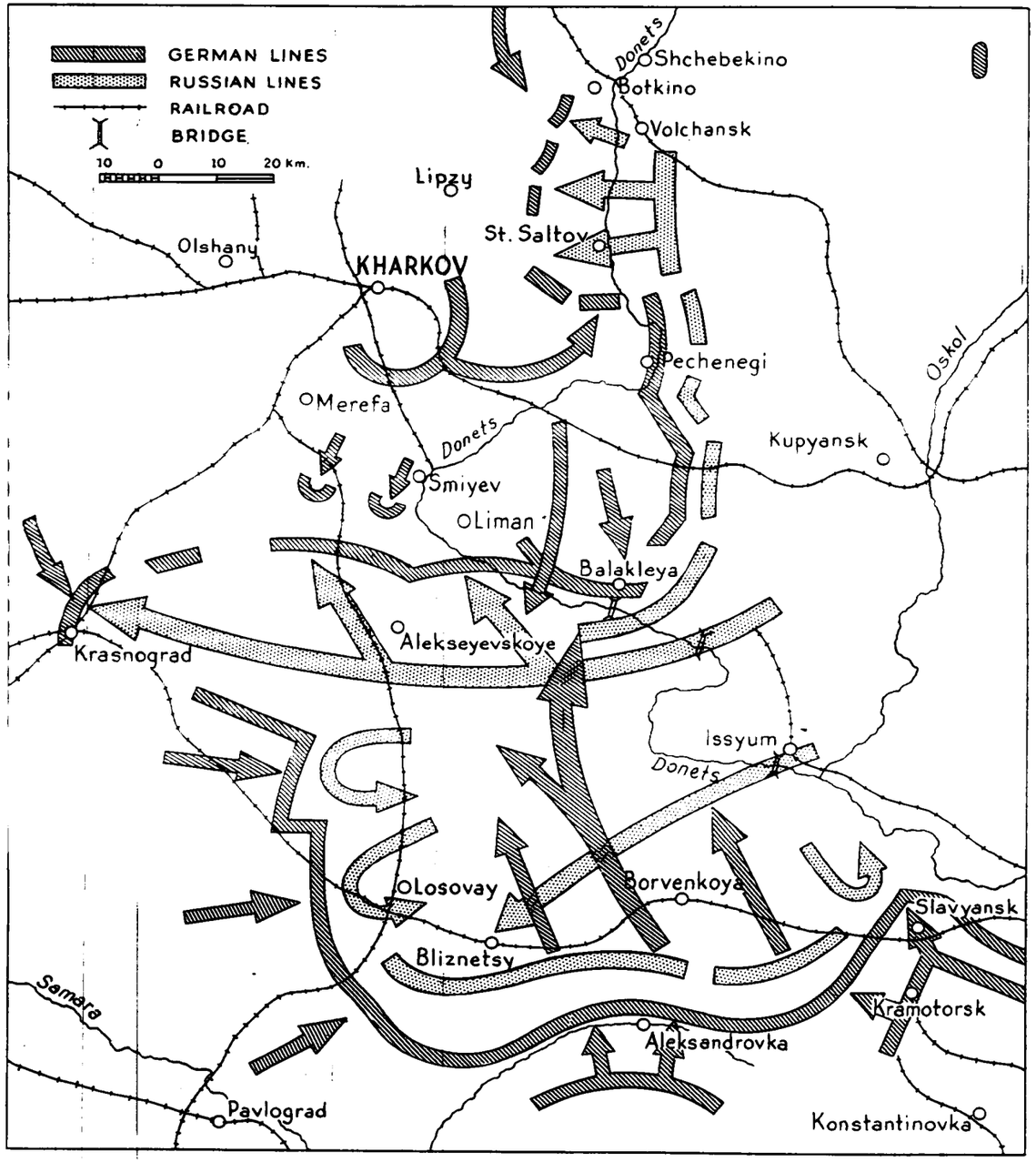
The principles outlined in the preceding explanation and diagram hold for all task force organizations in a particular operation. Every unit has its objective, its mission. Their method: infiltrate, surround, and destroy.

Our intelligence officers should be cautioned that if their unit is heavily engaged toward the front they should be on the alert, because an attack is most certain to come from a flank or even in the rear. They should

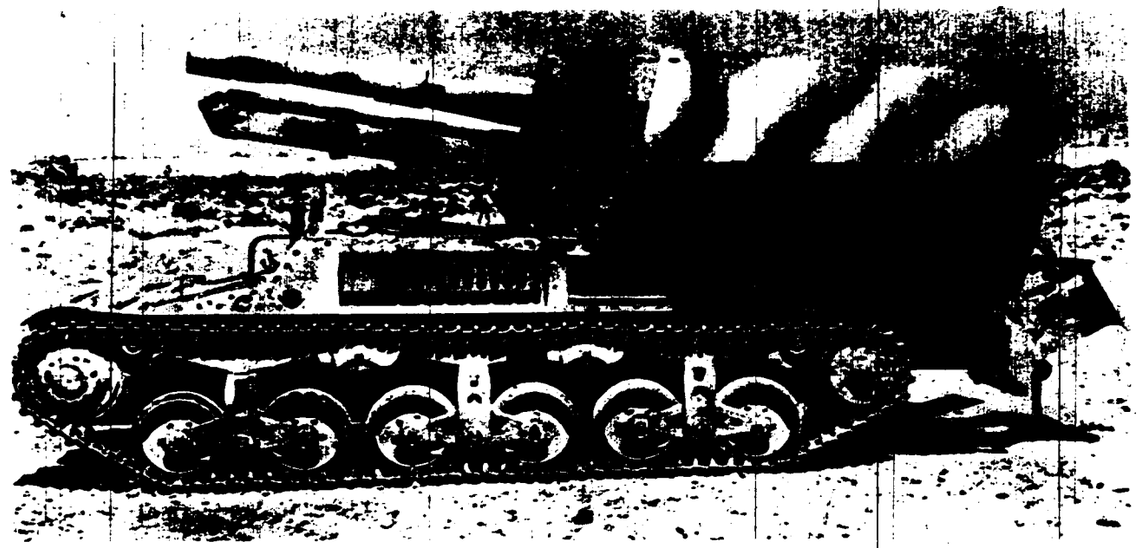
follow the operations of their own command, study the terrain and watch for traps.

The word "defense" has almost a lost meaning in the German military vocabulary. The German commander thinks only in terms of attack. Above all, the German recognizes that a well coördinated attack with modern weapons cannot be stopped by any line, no matter how well fortified it may be.

During the year, 1941, the initiative was taken from the Germans for the first time in any campaign. When



OPERATIONS AROUND KHARKOV MAY 12-25, 1942



This German 150mm self-propelled artillery was recently captured in Libya. (Date of photo, October 3, 1942.)

faced by superior odds they withdrew, and when their opponents overextended themselves they launched a counteroffensive. In other cases, German staff officers have explained that they allowed the enemy to advance into a trap before launching their attack. This was particularly noteworthy at Kharkov in May of this year. Note diagram.

In the past, the Germans have had the advantage because of their tremendous superiority of combat power; that is, aviation, tanks, signal communications and trained manpower. The organization of their entire nation into one vast war machine has enabled them to wage a total war against a group of uncoördinated poorly prepared nations.

The year 1942 is the 1917 of this War. We shall see the turning point of German military achievement this year. Hitler will lose the initiative and in 1943 will be forced on the defensive.

Americans take to this type of war naturally. It is more like our game of football than any other comparison. It is every man for himself in the execution of the task in a large team. In this game, the rules are few and they may be changed at any moment. American forces require only the right tools, the training and the experience. They are getting the tools and the training, and they will soon acquire the experience.

When American forces clash with German forces, there will be a loud bang. Later, there will be ups and downs but of the final outcome there will never be any doubt.

Nazi reconnaissance detachment in the vicinity of Tobruk.

As Told to the Editorial Staff of The Cavalry Journal

By Major Henry Cabot Lodge, Jr.

Cavalry Reserve

The author, United States Senator from Massachusetts, was sent to Egypt as an observer last summer, and while there participated with other American tankmen in action on the Libyan-Egyptian Front —Editor

The Enemy in Africa

THE British Eighth Army is now pursuing the fleeing German *Afrika Korps* back over the route along which we saw it advance last summer. Simultaneously, American expeditionary troops have "landed in force" on the western coast of Africa to allay any possible German retreat into French North African territory. With these two recent developments in mind the strategic importance of Africa and the Middle East is again limelighted.

During the past two years our enemy in Africa has seen fit to keep a considerable army in Italian Libya and, more recently, in Egypt. In addition, Germany has maintained even more divisions in the Balkans and Italy. Undoubtedly, the Axis has had an envious eye on the Middle East, control of which would mean possession of the Suez as well as the rich oil fields of the Tigris-Euphrates and the Persian Gulf.

The loss to the Allies of the Middle East would have been the greatest shock that they would have yet sustained. It would have seriously imperiled the British Empire and relegated their war effort to a defensive rôle in the United Kingdom. It would have isolated, if not eliminated, both China and Russia from major participation in the war. It would have aligned the Moslem world with the Axis, consigned Africa to Axis exploitation, and enabled Hitler and the Japanese to join hands.

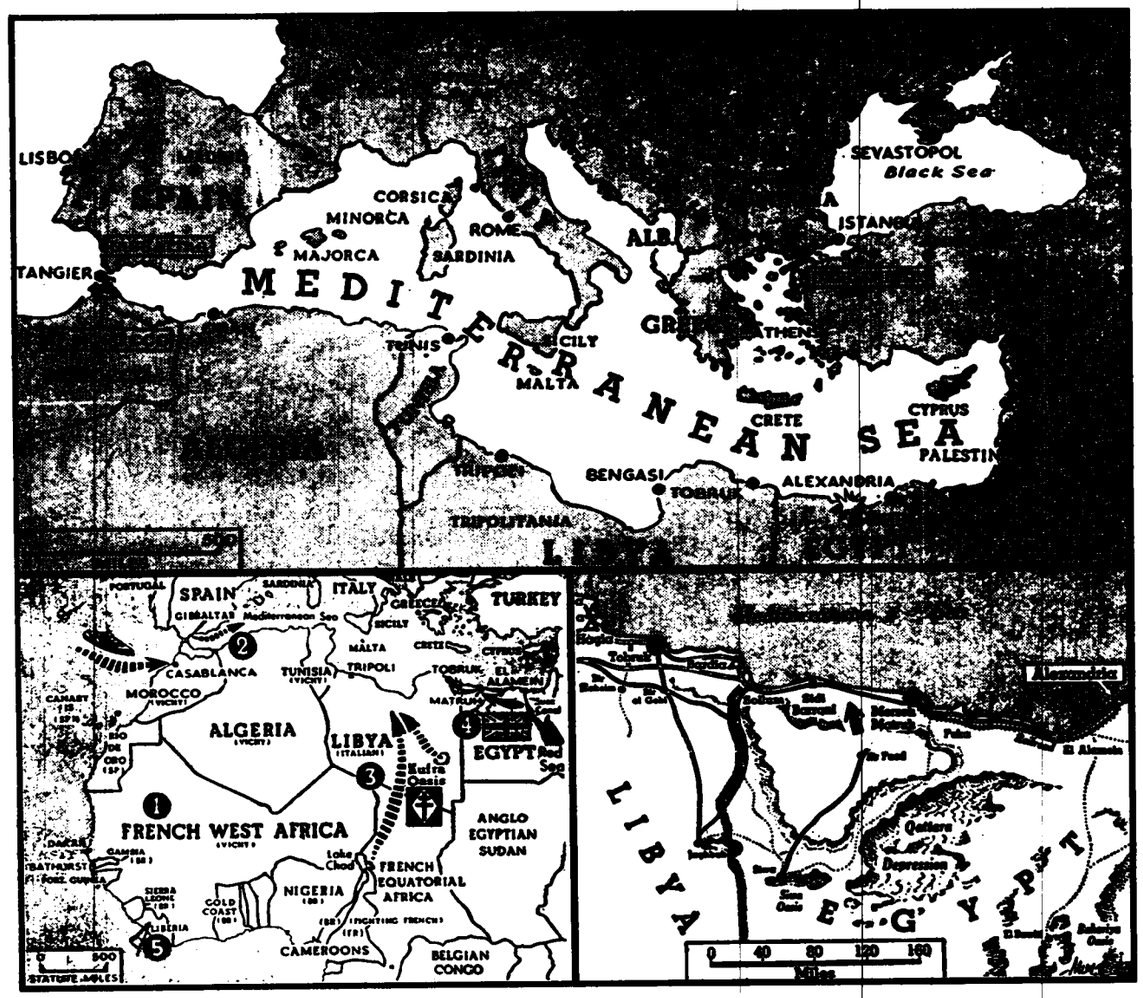
At the same time, no great amount of imagination is required to conclude that as soon as this theater of war is under complete Allied control, Hitler is not only blocked in his program of expansion, but Germany itself is menaced from any one of several directions.

For two years the British forces in the Middle East have fought against an enemy formidably trained and equipped and often superior in strength. At last the tide of war in Africa has turned, and the Germans are suffering their first major defeat. But the war is still far from over, and other German armies remain to be conquered. The job ahead is still not an easy one; and our enemy whenever and wherever we meet him, is *not* a weakling.

This I learned while serving with other American tankmen during the German advance in Libya last summer. We were shelled, bombed, and machine gunned. We saw the German army in action, saw it work with precision and efficiency, saw it push back the British forces, and seriously endanger the Allied life line in the Middle East. Although our small American tank force "took it" and struck back with a final score that did credit to both men and machines, from our short experience in Africa we acquired a healthy respect for the Nazi fighting machine.

I was serving on active duty with the Second Armored Division last spring when I learned that a small group of volunteer tankmen—officers and men—were to be sent to Libya to observe and participate in the fighting then going on. I was fortunately among those who were selected to go.

We flew from the United States, across the Atlantic and over the teeming continent of Africa. This trip in itself was exemplary of the new developments brought about by this war, and the vital importance of Africa as a link to future victory.



THE MEDITERRANEAN AREA

Americans are pushing forward from the West, while the British pursue the fleeing German Army from the East.

The Ferry Command has performed a miracle in creating and operating this route. It enjoins distant continents, straddles sea, jungle and desert, and furnishes a supply line that measures transit in days and hours instead of months.

Spacious airfields have been established in country that only a few months ago was known as the "White Man's Graveyard." Comfortable quarters have been built for ground crews, antiaircraft guns erected, doctors and medicines imported. Even new movies are flown in.

Several days after our departure from the States we arrived in Cairo and reported for duty. The next day we moved up to the front in a train crowded with British, Free French, Indian, and Australian soldiers.

At Capuzzo, on the Libyan-Egyptian frontier, most of the party of Americans went on to Bardia for a week's training with British units. I went forward to make an over-all observation of the combat area where Field Marshal Rommel was just beginning his push that eventually took him to within forty miles of Alexandria.

One day we were driving a command car from Tobruk to Bardia when the Stukas appeared. We jumped out of the car and dived headlong for a slit trench just about the time that they dived. They were after a line of British supply trucks en route to the front. After the Stukas blasted the entire line of trucks they swept back in graceful arcs and started strafing us with machine guns.

Back in Bardia I learned that our men had made rapid progress in their training and were ready for combat. They went into action on June 11th, swung their tanks alongside British-manned tanks, and were promptly attacked by German tanks from a range of about 4,000 yards.

One of the latest German tanks, the *Mark IV Special*, knocked out in Libya.

The main engagement started at about 3:00 AM. All day the American crews kept up a withering fire that held the Germans some 700 yards away. Although it is difficult to keep an accurate score in a tank battle, the American crew knocked out at least eight German machines before the Germans brought up their 88mm guns and the British gave the order to retreat. The American machines and men had been through their baptism of fire and acquitted themselves well. The next day the men turned in their machines and prepared to report what they had learned.

One of the important conclusions drawn from our observations and brief experience was that the remarkably efficient organization, drive, and timing of the German army should not be underestimated. Nor should it be forgotten that the German equipment is on a par with their aggressiveness.

A man would have to be blind not to see that the German soldiers were superbly equipped for the peculiar rigors of desert fighting. German civilians have had to content themselves with *ersatz* makeshifts, but not their fighting men. One afternoon I talked with a German prisoner who was calmly confident that his side would win—"We will win," he said, "because our equipment and organization are better."

I did not remind him that America had not yet added her first punch.

Now that that time has come, America must have quality as well as quantity. Her army must have supply systems, organization, and above all, brilliant military leadership on the battlefield. America can achieve all of this through the individuals who make up our army and the individuals who back it.

As we left Africa last summer one man remarked, "It seems a damned shame to clear out after our first crack at 'em."

"Yeah," said another, "but we'll be back—here or France or somewhere."

Already American men and machines are back in Africa. Sooner or later they will come into contact with the enemy. That enemy must be beaten at all costs, must be driven out of Africa in order that we may keep the supply lines open, hold out hope to the fighting people of China, Russia, and all the conquered countries, and secure our own route to future victory.

Notes On the Afrika Korps

By Major Joe Ahee*

FROM my observations in North Africa last summer certain deductions regarding the German army and its operations were inevitable.

Great thoroughness and detailed preparation is displayed in all of their actions. This shows up in many ways; from the spare parts that they bring with them for American and British tanks, to the musical programs furnished soldiers behind the lines. Apparently they lay great stress on prompt and frequent delivery of letters from home because a captured German diary stated that the German soldiers were angry because *one week* had gone by without any mail.

This same attention to detail is also shown in items of equipment. The Germans have a very practical rubber ground sheet which comes in an envelope that can be fastened to the belt. A German parachutist's uniform has forty-seven separate pockets and containers.

The Germans seem to have planned for every emergency and apparently do not "miss a trick." Their program of maintaining their troops in perfect physical condition is another example of their exactitude. Even at extremely forward positons they are up at 5:15 AM and have fifteen minutes of calisthenics which are followed by roll call and inspection.

In their employment of armored units, the Germans appear to use them *as a corps*. They frequently move at night and often attack on moonlight nights. Their practice is never to attack anything stronger than they are. They tend rather to infiltrate to supply lines and rear installations and leave strong points alone.

Strategically, the Germans move fast. Tactically, their reconnaissance moves fast, but their tanks move relatively slowly from one hulldown position to another. They keep their life line well out of striking distance and launch their tank attacks on a different axis from that used by their infantry. They seldom fight a tank *versus* tank battle but use tank and antitank units in combination, with the antitank units pitted aaginst the opposing tanks. In battle they avoid firing the front of tanks but seek to achieve a crossfire. The Germans replenish their ammunition supply behind their antitank guns, which are brought forward among the tanks or are concealed behind the derelict vehicles which clutter up the desert. Practically every German vehicle pulls a 50mm antitank gun.

German tanks are sent forward with a ferrying crew who bring disabled tanks back. This enables the combat crew to rest and enter the battle without having experienced the fatigue of an administrative march. Tanks have a removable idler and carry a few spare links which enable them to carry on in an emergency.

It is of particular interest that throughout the German army the weakest are made to help the strongest rather than the strongest required to take care of the weakest.

*Major Ahee accompanied Major Lodge to Africa last summer.

The German Map Reference

THE Germans have a map-reference system which they call "stosslinie," which means "thrust point." A line is drawn on a map. Theoretically, it may run in any direction, but in practice it is found to run either in the direction of the German intended advance or down the axis of a reconnaissance unit.

The line begins at a fixed point and continues indefinitely in the required directons. For convenience it is usually divided into centimeters. To give a map reference, a perpendicular is dropped from the reference point to the thrust line. Measurements are then given from the starting point of the line to the point where the perpendicular cuts the thrust line; then along the perpendicular to the reference point. Since the point may lie on either side of the thrust line, the second figure has to be prefaced by either right or left as one looks toward the enemy.

A typical reference would be 12 right 3.5. The figures always are centimeters; therefore, the actual distance on the ground represented by each unit will *not* always be the same but will vary according to the scale of the map.

In order to make the code more secure, the following variations may occur:

1. The scale may start with an arbitrary figure; that is, the starting point may be called sixty instead of zero; so that our map reference would read 72 right 3.5.
2. Dummy figures are often used. By previous arrangement, it is agreed that the first, third, and fifth figure of any map reference will be dummies. The above map reference, for instance, might be given as 87329 right 83359.
3. Finally when more than one thrust line is being used, perhaps by a Corps or Army, they are numbered and map references begin with the number of the thrust line.

Instruments have been found that consist of a ruler in translucent material graduated in millimeters, with a shorter ruler similarly graduated fixed at right angles which slides up and down on the larger ruler.

Operators with practice can give references very quickly.

Armored Reconnaissance

*By Major General C. L. Scott**

EVERYONE knows that adequate security begins with long distance air and ground reconnaissance, and I cannot stress too strongly the need for the continuation of adequate security throughout all the stages of battle. In modern mobile warfare there is no line or well delineated front. Combat usually resolves itself into fighting by group, and each group needs protection for its front, flank and rear. This protection cannot be afforded by observation alone, but only by elements possessing some "punch."

In desert warfare the enemy is not confined to roads, and may approach from any direction. If the main body is to be given an hour's warning by its ground reconnaissance, it must be thrown out about thirty miles from the main force on a complete circle. The front to be covered therefore is equal to $2 \pi r = 188$ miles. Since observation in the desert is limited at most to about two miles and since vehicles should work in pairs, about 190 vehicles would be needed to give all around observation if they were operating alone. However, if air reconnaissance is added to this long distance ground reconnaissance, anyone can see that security becomes immeasurably more effective and that it is then possible to reduce and utilize better the available ground reconnaissance in all around security.

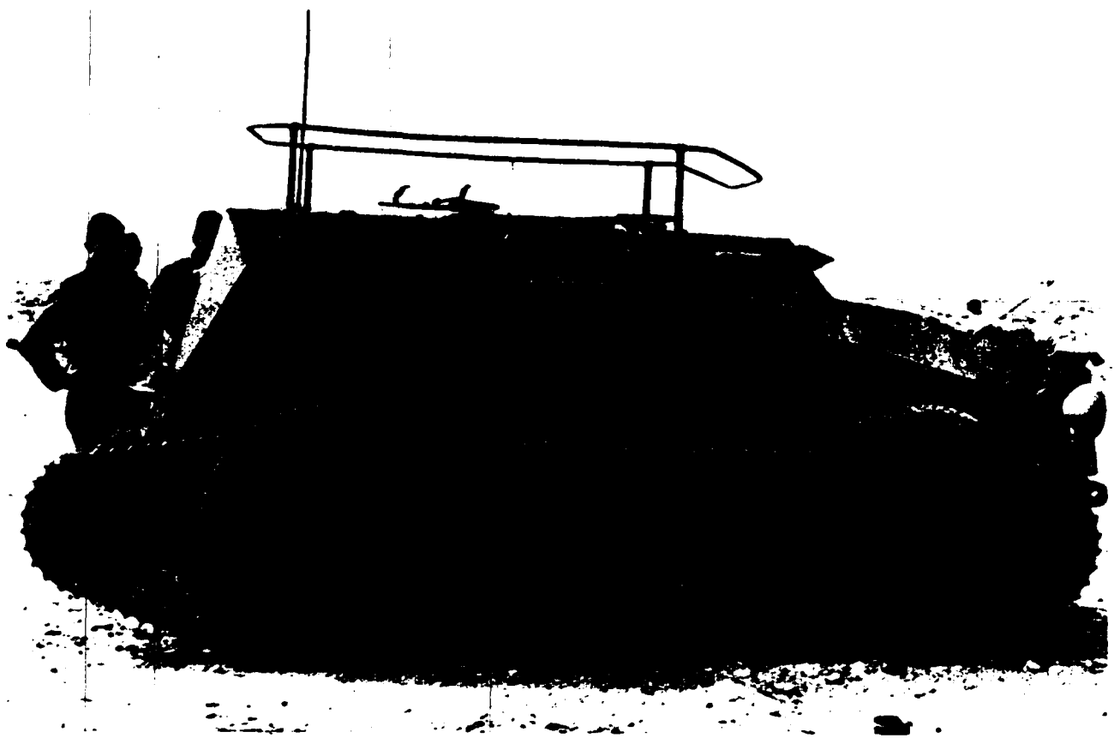
To attain adequate security it has always been an established principle in cavalry tactics to employ long distance reconnaissance, intermediate reconnaissance, and close-in security detachments. Since the advent of air it also has been the practice to tie in the long distance reconnaissance elements with air reconnaissance. This is sound procedure, necessary in any terrain, and more necessary in the desert than elsewhere. The lack of air reconnaissance working constantly with ground reconnaissance tied in on the same communication net and the lack of sufficient ground reconnaissance to throw out both long distance elements as well as intermediate patrols led to many surprise actions in the last Middle East Campaign.

In past wars, where mechanized and motorized elements were not so predominant as today, it was possible to send out more mobile elements than the enemy's large units and main reconnaissance, and by the use of this mobility to avoid, sneak through, or go around hostile security screens. This superior mobility enabled the necessary information to be obtained and sent back in time to be useful. This was pure reconnaissance working on the principle "to see and not be seen." In this machine age where an enemy like Rommel throws out equally mobile stronger packets of all arms to execute security missions, and where his main elements are equally as mobile as opposing reconnaissance, it is apparent that *weak* reconnaissance can get nowhere on its mission against this much stronger opposition. On the other hand, on many occasions it will be overrun and destroyed before it can obtain any information of value. Also, on occasions in the desert, it was not even possible for weak reconnaissance to *pause* long enough to send in valuable information that had been collected, and it was not unusual to see light, long distance reconnaissance piling pell mell back on the main body just ahead of a strong surprise attack. In this day and age, long distance reconnaissance must be organized to *fight in execution of its mission*, to *fight for time to send information in*, and to *fight for time for the main body to properly utilize the information sent in.*

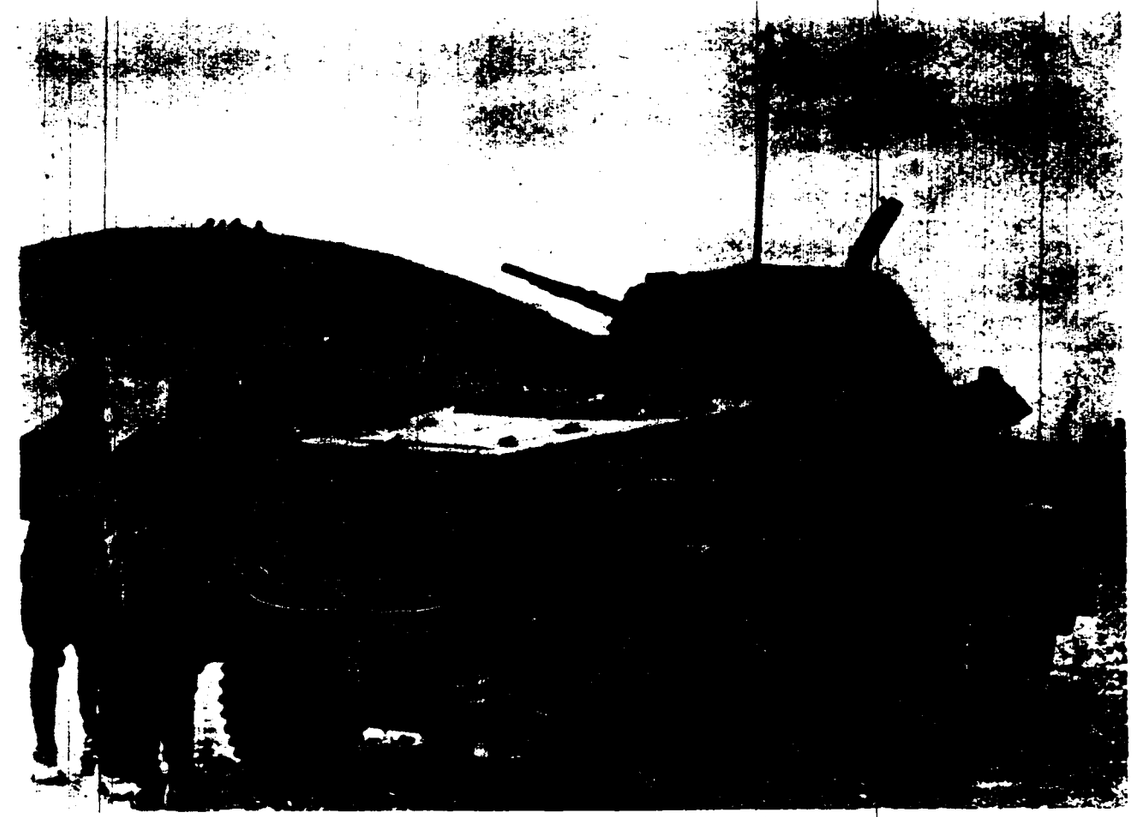
In all maneuvers and in all actions that I saw in active desert operations, the main body sooner or later closed up on its long distance reconnaissance, or the long distance reconnaissance fell back on the main body. When this action takes place, the mission of long distance reconnaissance resolves itself into a security mission involving the protection of the flanks and rear of the force it covers during the entire course of the ensuing battle. The failure to apply this principle and the failure to organize reconnaissance units possessing the necessary power to engage in combat against very strong and mobile opposition, and also the failure to tie this battle and security reconnaissance in with battle air reconnaissance, led to disastrous hostile attacks against the flank and rear of many larger units engaged in combat in the last desert campaign. In short, the mission of security during battle cannot be executed by weak reconnaissance, lacking air assistance and communications.

The purpose of the foregoing comments is to stress as forcibly as possible the need for strengthening our long distance reconnaissance units so that they may fight properly in the execution of their normal duty of re-

*Formerly, Observer with British Army in North Africa. Now Commanding Armored Force Replacement Training Center.



A Nazi half-track armored observation car captured by the British. This car is so equipped that where speed over level terrain is desirable, the tractor tread can be raised and the tired wheels lowered to provide the traction.



Nazi reconnaissance vehicle captured in Lybia.

connaissance, and also in battle security for the unit with which they work. The reconnaissance units that I think best organized at this time to perform both these functions are the reconnaissance battalions included in the armored division. The present cavalry reconnaissance regiments need the addition of self-propelled mounts, more powerful self-propelled antitank guns, and also tanks in order to be a real factor in present day reconnaissance. This is not my opinion only, but also the opinion of many British reconnaissance officers with whom I talked in the desert.

Proposed additional reconnaissance means for large units are frequently disapproved on the grounds that too much *overhead* is being added for this purpose. With this statement I heartily agree, if and when these reconnaissance units are organized only to observe. However, when they are properly organized and equipped to fight first for information as they must now do, then to fight and delay while the main body makes use of the information sent in, and finally to take their place as strong security elements during the progress of battle, it is difficult to see how they can be classed as overhead or wasted strength. In fact, a long distance reconnaissance unit, organized only to observe, is not worth its salt, let alone the road space it consumes.

As to air units, the Germans have no such terminology as "observation aviation." This type of air unit is termed "reconnaissance aviation." In addition, it is organized and equipped with planes and armament to fight, to bomb, and to assist ground troops while executing its reconaissance missions. It also pays its way with more than the one mission of observation and fights if necessary to do that.

If we do not insist on having *air support in reconnaissance and combat*, and if we fail to tie our ground units into the picture with these air units, understand the use of air, talk the same language and train together, then we shall have overlooked the most important teamwork that modern means affords us.

Another important feature in company and organization training that should be stressed is *the effectiveness of .30 caliber fire against low-flying air attacks*. Every once in a while we read of planes being knocked down by this small arms fire as if by pure accident. German armored units carry many antiaircraft light machine guns and 20mm guns mounted on vehicles comparable to the .30 caliber and .50 caliber antiaircraft guns in the armored force units. British fliers told me such weapons in German units made air attacks under 5,000 feet extremely hazardous. The .30 caliber antiaircraft guns on our General Stuart tanks frequently knocked down German planes in the desert. In the use of such weapons by aimed fire the habitual mistake was a failure to take sufficient lead on the attacking plane. The best results were obtained when gunners, kept constantly on the alert behind each machine gun, put up a large volume of fire against attacking planes, well in front of them, with little attention to aim but with the idea of establishing a curtain of fire into which the planes would fly. Certainly the important points are: to carry all possible .30 caliber and .50 caliber weapons in armored units in position for use as antiaircraft guns; to keep gunners on the alert in firing positions; to fire and *fight back*—don't lay down and *quit* against these low flying attacks if you have anything at all with which to fight back! When on the march or in movement in scout cars, armored cars and tanks, the safest and best thing you can do when attacked by low-flying planes is to continue the march and employ all available weapons while in motion. This is the opinion of both fliers and armored organizations in Libya.

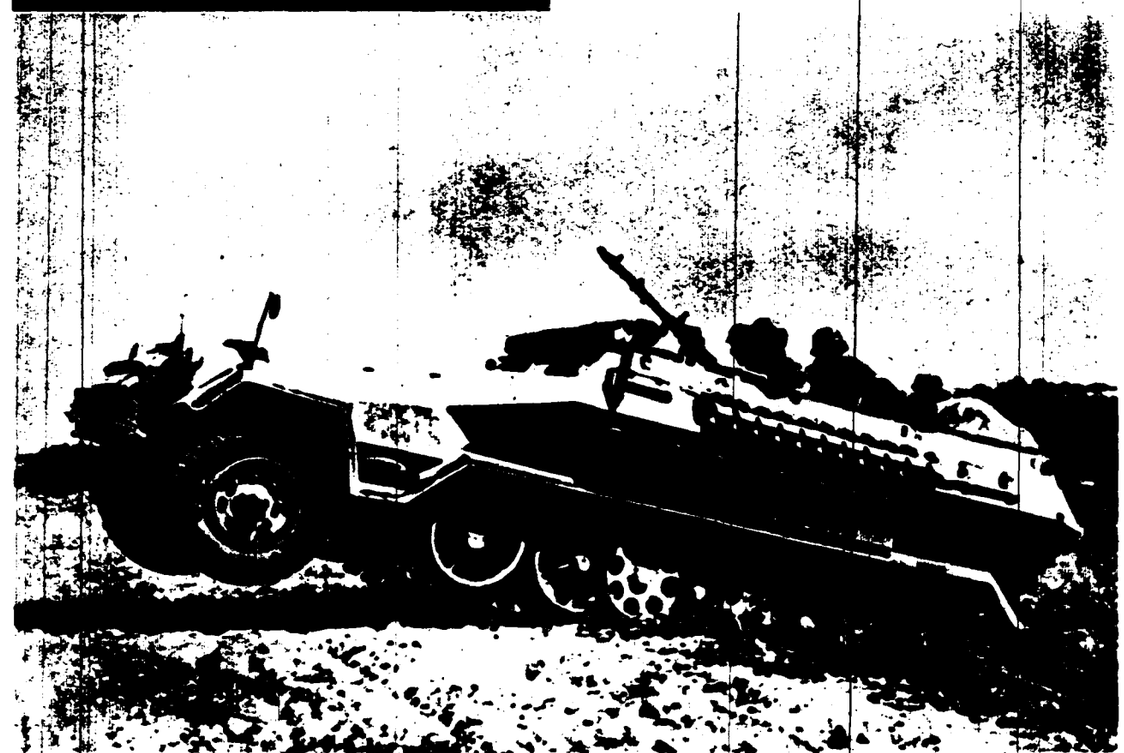
In our training of reconnaissance units and of armored and mechanized units, I feel that the organization commanders are overlooking the necessity for training the company and organization overhead in combat duties. Most of this specialist overhead, particularly in the company, go with organizations into battle. Usually they are mounted in combat vehicles and habitually they must fight to exist. This overhead in mobile warfare is in the same situation that the organization overhead of our cavalry was in the Punitive Expedition into Mexico; i.e., anyone that could not ride and fight was useless and was not even carried along with his organization. Therefore, we must suggest: "take" (F) specialists, such as company clerks, cooks, armorers and mechanics out of the orderly room, store room and garages and teach them their principal combat duties—to drive and fight—or else in battle they will be millstones around the neck of their organization.

Most properly we stress *offensive action*. It cannot begin too soon in any engagement. Ability to act offensively is now highly important and necessary in the execution of up-to-date, long distance reconnaissance missions which eventually and logically merge into the protection of the flanks and rear of larger units throughout the important phases of battle. Surely we can organize and train *too many specialists* for combat units and too many units for special purposes, unless we also train and equip them to fight and to act offensively. We'll never win the war by observation alone or by units organized only to observe—but by fighting units that can both observe and do some killing.

New German Vehicles

AMONG enemy vehicles recently captured on the Russian Front is this half-trackcycle which carries a crew of three and can operate over most types of country, particularly marshy, muddy areas as demonstrated here. It is driven by motorcycle handle bars, but in place of the rear wheel has tracks of the armored-car type. It also has a tank-like body and is equipped with cannon and machine guns, which are operated by the two members of the crew carried in the rear.

Another new Nazi vehicle is the battle wagon shown below. Well armored, it is designed for fighting as well as for transporting troops. The caterpillar treads used on regular wheels are another innovation made necessary by Russian mud.



German Cavalry in the Russian Campaign.

Member of Nazi reconnaissance unit in destroyed village on Russian Front.

Cavalry In the Polish Campaign

(Lessons from the German Cavalry School)

By Lieutenant Colonel Emilio L. De Letona, Spanish Army

EDITOR'S NOTE: *The material presented here is reprinted from an article entitled "Mechanized Cavalry," written after a visit by the author to the German Cavalry School, and published in* Ejercito, *Spanish military magazine. There is no doubt that Colonel Letona was impressed with the fact that the Germans stress the importance of close coöperation between their mechanized and horse units.*

In 1940 the German army was reliably reported to have had approximately 791,100 horses (not including supply columns). Of this number 18,300 were cavalry.

THE first World War—a war of the trenches with continuous wasting and emaciation broke the morale of the troops and decreased the methods of attack. In the whole four years of fighting the means of offensive benefited no one in obtaining a decisive termination. This caused all nations to react violently against the static form of this kind of war—a war of positions, a war in which none of those principles were held to be of importance (which are indeed of great importance and which truly constitute the Art of War); that is, the movement and rapidity which bring the reason for conflict to clear and brief terms. By this means a war is brought to a rapid decision.

The quickness of movement necessitated by modern war has acquired an enormous importance, and this is one of the reasons why all countries have replaced part of their horse cavalry with mechanized. There is no doubt that speed is an important factor. Naturally, it is not possible to compare competently the speed of the horse to the speed of the motor. *Such comparison is wrong.* It must also be considered that the value of arms does not rest in speed alone, but in the coördination of all arms in the many phases of combat.

In the present war—a war of movement, in which speed is a principal and sometimes a decisive factor—on many occasions a proper amount of horse cavalry, by intervening at the right time, will produce great gaps in the flanks of the large units in movement and in the intervals between them. *This offers a broad field of operation for the horse cavalry.*

General Guderian, Chief of the German Armored Forces, says, "In these days armies must use horses and motors. If one prefers the motor, this is limited by the production of combustible fuel in one's own country." This authority gives strength to our statement that while it may be necessary to have mechanized cavalry, it does not follow that horse cavalry must cease to exist.

Mechanization cannot be effective in Spain by simply imitating the actions of a foreign country, because we must consider the various geographic aspects of the land, the network of lines of communication, the progress of the national motors industry, the vital question of fuel, etc.

"We must realize that France needed more than 15,000,000 tons of petroleum per war year, and that Germany needed 25,000,000 tons. One offensive like the Polish Campaign used 1,000,000 tons, and the amount of combustible fuel used in the German offensive against Belgium, Holland and France totaled 1,000,000 tons weekly."[1]

The Polish Campaign was won by the employment of motors because of little or no efficiency on the part of the Polish cavalry, who served no definite purpose in the action, who showed very poor management and employment, and who took no advantage of the opportunities that presented themselves.

According to information published in *Ejercito* and other articles on the same subject, the Polish cavalry had many opportunities to distinguish itself if it had had the boldness of spirit and decision characteristic of all cavalry. We mention one of these occasions to prove our point. For 48 hours a group of German tanks, by cannon and machine gun fire, maintained an established bridgehead against the attack of the Polish cavalry who were unable to dislodge them because of lack of decisive action; the tactical situation was gravely compromised since no German infantry were available to defend the occupied territory. If this cavalry—with the spirit of attack and boldness proper to the arm—had taken this bridgehead defended by a group of tanks (which they might very well have done, since the Germans them-

[1] *Ejercito*. July, 1941.

A German tank regiment advancing through Poland.

selves admitted the seriousness of the situation) great praise would have been accorded to the horse cavalry.

According to an article printed in another issue of *Ejercito* referring to the Polish Campaign, if the Polish cavalry had thrown itself in an all-out assault against the flanks of the German army in march and had penetrated without fear into the breaches among it, the cutting of communications, the destruction of the convoys, and the impossibility of the German rear guard to survive, would have well repaid them for their boldness. This should have been done, not only because this was their mission but also because they were encircled. Moreover, they were certain of the support of the civilian population, which would have permitted them to live in the occupied country—an impossibility for the mechanized formations. The result of some of the battles might have been very different from what they were.

During the month of June* we were in Germany as a part of the Spanish Military Mission and while there visited the Cavalry School at Chemitz. After the presentation of a brilliant exhibition by the *Equipo Internacional de Saltos* (Horsemanship Team), which showed the results of training and discipline in this school, there followed a conference with the Lieutenant Colonel Directors of the school concerning the Polish Campaign and the lessons to be learned from it relative to the use of cavalry. Prior to the Polish Campaign, Germany had in East Prussia one brigade of independent cavalry and three additional regiments of cavalry. Each regiment had nine squadrons of sabers and one of machine guns. In that campaign the German horse cavalry, provided with modern arms, demonstrated its efficiency and was decorated for its brilliant action. The natural terrain of Poland necessitated marches not only by roads but also across country and was very appropriate for their horse cavalry, which were often able to reach their point of combat in a more satisfactory manner than the mechanized forces. The advantage of the horse cavalry lay in its greater quickness of movements.

The great results obtained, thanks to the motor, in the campaigns in Poland, Belgium, Holland and France have given rise to the idea that horse cavalry is a part of history and has lost the importance that it used to have; but after a bit of thought one can readily see precisely why mechanization has acquired its exceptional importance.

By the measure of its own efficiency, in the same manner, will horse cavalry add to the mechanized units.

The assigned missions of exploration and security, liaison, reconnaissance, and the exploitations and proper culmination of the issue (characteristic missions of horse cavalry) are the same as those of the mechanized forces. This arm has very definite duties, and because of the evolutions and progress of the times, the motor has acquired a great importance in modern war where speed is essential. The present missions of the mechanized cavalry are the traditional duties of all cavalry, and it is self evident that the officers of that arm who

*Presumably, 1941, just prior to the German attack on Russia

possess the cavalry spirit, accustomed to boldness and initiative, should also carry on in the duties of the mechanized units.

In the German Cavalry School, we have seen different types of mechanized cavalry which, together with motorized squadrons, coöperate closely with large units of horse cavalry. Each motorized squad is composed of 4 motorcycles in the following manner:

1st Motorcycle, tripod with antiaircraft dispositions and munitions.

2d Motorcycle, a machine gun emplaced in the interior of the sidecar, so situated to fire forward with accompanying ammunition, a total of 3,500 rounds per machine gun.

The 3d and 4th motorcycles, the same as the 1st and 2d. In each motorcycle are three soldiers, two on the motorcycle, one in the sidecar.

We saw the following types of vehicles:

1. Light armored reconnaissance car, with 1 machine gun. Radius of action, 350 kms.

2. Car with radio. 1 machine gun. Radius of action of radio, 100 kms.

3. Armored car, 20 cm. cannon and 1 machine gun. 250 rounds for the cannon and 1,000 for the machine gun.

b. Six-wheeled car. Radius of action 100 to 200 kms. 20 cm. cannon and 1 machine gun, weight 8 tons. Speed on good roads, 60 to 80 kms. per hour.

5. Eight-wheeled car. Same armament as above. Radius of action 300 kms. Speed 80 to 100 kms. Two drivers, one on either side. Weight 8½ tons.

6. Car same as above with radio. The armor of all cars is proof against rifle and machine gun fire.

General Guderian affirmed that the tactics and methods of operation of the armored car (mechanized) units are based upon the traditions of the better doctrine of the cavalry, and this is the same opinion that we heard advanced in Germany by the Chief of the German Cavalry School.

There is no doubt that in this mobile modern war, mechanization of cavalry is necessary, but this does not do away with the horse cavalry in any other country or in our own—for in dangerous country, mountains, woods, or terrain cut by rivers, horse cavalry can always move more easily; and the sphere of operations will always dictate the type of units to be used in order to achieve the best results.

To recapitulate: There is no doubt but that it is necessary to mechanize part of the cavalry, but it is also necessary to retain horse cavalry units, for only through a wise use of both of these, will we reach a goal of harmony and efficiency.

The best proof of what we say is that Germany, who, before the Polish Campaign relied alone on one brigade of independent cavalry in East Prussia, at the conclusion of this campaign, transformed this brigade into a division; for while there was need of mechanized elements to be sure, at the same time they increased the number of their horses.

Horse cavalry and mechanized cavalry will always be but one cavalry, for they both have missions and both must possess that which constitutes the most precious attribute of the cavalry—the traditional spirit of the cavalryman.

A Nazi cavalry patrol on reconnaissance near hostile territory.

German mechanized units being pulled through water and marshes with the aid of cavalry horses.

IN the *Washington Post* of Sunday, October 11, 1942, appears an article by Marshall Andrews containing very reasonable and convincing answers to the assertions made by certain air extremists to the effect that air power alone can win victory in this war, or that in warfare only air force will be of any great importance.

In view of what has already happened in this war it seems extraordinary that there should be any need for such an article as that referred to. But there are thousands of persons in this country who want to believe that all we need is air power. Of course, no well balanced, clear thinking student of warfare will subscribe to such an idea. The Douhét theory that bombing of cities and industrial plants will conquer a nation has already been proved false as Marshall Andrews clearly explains.

As dominant factors in war, machines come and go. They have their day—their triumphs. In time, defenses against them are contrived, and they lose their relative importance. It is for this reason that the fighting soldier or sailor will always be the most important element in warfare, no matter what weapons happen for the moment to be the most useful. The vehicles or machines which carry these warriors on land, sea, or in the air, will vary with each war and will serve only as means of transportation for fighting men. These remarks are not intended to disparage air force or armored force (or indeed any other arm of the service) or to belittle the tremendous importance of these newly established mechanized forces in this present war. But it is believed that the tendency of people today is to attach more importance to machines than to the men who ride in them, and to assign more credit, praise and romance to the men who fight in them than to those who fight not as crews but as individuals on the ground.

It is a mistake to say that airplanes or tanks are weapons. They, like warships, simply carry the warriors and their weapons and give a certain protection to the men by means of their armor and their speed. As in the case of armored warships, the men in them can do their fighting while remaining in them. As carriers, they can put the fighting men in advantageous positions, overhead, at sea, or at close quarters to the enemy on the ground, and thus enable the men to use their weapons most effectively. The weapons are the guns, bombs, torpedoes, and the knives, spears or bayonets, as each of these comes within its own range for use against the personnel of the enemy.

As these carriers become more and more vulnerable to the new weapons of the future, they will have to be discarded or greatly modified before they can continue to carry fighting men into battle.

Furthermore, neither bombardments from artillery nor bombings from airplanes have yet been able alone to defeat armies on the ground. Such attacks are successful only when the fighting men of the enemy are confined in tanks, airplanes or ships. They may then be destroyed by shells and bombs as their carriers are destroyed. But when the fighting men are on the ground in dispersed order and each on his own legs, they can be beaten only by other fighting men similarly placed. Shells and bombs assist, and assist greatly, their own fighting men but they cannot do the job alone. There are local exceptions of course.

It is for these reasons that the infantry, in the last analysis, is the only permanent branch of the fighting forces. The infantry is mostly composed, not of crews confined in ships or airplanes or tanks, nor of crews serving a single weapon like a cannon, but rather of individual fighting men, each with his own weapon, and each capable of separating himself from the others so as to avoid making good targets for enemy weapons. Each man fights his own battle, but all these fighters are organized into groups for control and coöperation. In attack, the infantryman seeks to come to close quarters with the enemy; in defense, he tries to hold the enemy off as far as possible. This individuality is the permanently distinguishing characteristic of the infantry.

Even in the navy of bygone times, battles were concluded by the attack of individual warriors who boarded the enemy ships. Now they fight as artillery at long ranges. With the advent of bombs and torpedoes dropped from the air, even this naval characteristic is changing. However, when weapons are contrived to render airplanes more vulnerable as carriers of fighting men, the navy will go back to fighting almost entirely in ships.

As for armored ground forces, or tanks, antitank weapons are already developing which will eventually render tanks so vulnerable to fire that it will become impracticable to use them to carry men into battle except when they are closely supported by the infantry.

There is no doubt that these branches of the fighting forces which were last developed by mechanical inventions and innovations for warfare, and thus dominate the theaters of war for the moment, will be the first to lose their present importance and will decline relatively in comparison with older and long tested branches of the service which are built on more basic and less complex principles. But they will not disappear entirely.

To epitomize, complex machines provide swift carriers to carry warriors into battle, but as they become too vulnerable to new weapons their use as carriers for fighting men in battle will become more and more limited, and the men must return to the less complex

and more simple method of fighting on their own legs.

Even today, the present war has already proved that infantry is a basic arm never to be displaced entirely, and that victory can never be won without it, even though the newer branches are now indispensable. No one *can* believe that we can win this war without airplanes and tanks, but no one *should* believe that these new branches can win it alone.

Now, as a cavalryman, my faith in that arm is partially based on that same characteristic which is found in the infantry. That is to say, it is composed principally of individual fighters each in control of and responsible for his own weapon. The cavalry branch is a group of individual horsemen armed for fighting on foot or on horseback as the situation may demand. Like the infantrymen, the cavalrymen can turn their hands to any useful service, and change their weapons as may be desirable or necessary. They have that basic quality of enduring usefulness which any group of individual warriors will always have. They differ from the infantry only because they use horses to give them greater cross-country mobility. And in order to preserve that mobility they sacrifice some qualities possessed by infantry such as suitability for prolonged battle. But working with infantry, they can supply certain needs of the infantry such as mobile covering forces and security patrolling, linking forces together and protecting flanks, assisting the infantry in withdrawals and by delaying actions, linking them to armored forces and motorized troops, and finally in an all out participation with the infantry in battle and pursuit.

In addition, cavalry is useful as a specialized infantry in some independent operations. Cavalry is useful in some guerrilla-like operations. *Its missions are not the same as those of armored forces and should not be confused with such missions.* The necessity for large masses of infantry has been demonstrated in this war, as before said; large numbers of infantry need large numbers of cavalry as the closest coöperating partner. The coöperation of cavalry with armored and mechanized forces, when cross-country operations are necessary, has been mentioned many times in these Notes. The basic arms, composed of warriors fighting individually, but organized in groups for control, are often needed to help out the newer branches which are so dependent upon motor vehicles.

★ ★ ★ ★

Air Power Alone Cannot Achieve Victory*

By Major General of Aviation Zhuravlev

RECENTLY the British and American press has been intensely debating the prospects of war in the air. Alongside articles soberly appraising the part played by the air force in modern warfare appear others devoid of all sense of measure and reality.

Some military authors attempt to prove that aviation is the sole force capable of achieving victory in modern warfare and that blows from the air can take the place of offensive operations of land troops. Referring in this connection to the well-known doctrine of Douhet, it must be pointed out that the military doctrines of the largest world powers differ vastly from Douhet's ideas and are based on the principle that the issue of war is decided by armies of many millions of men equipped with land as well as with air arms.

The basic force in war is the land army. The air force itself is organized in such a manner that it can accomplish its tasks not independently of the land forces, but in coördination with them. This tendency is consistently followed by all armies. When Douhet evolved his doctrine, he could not draw upon the experience of war, but arrived at his conclusions only by logical deduction.

But it is absolutely incomprehensible that this doctrine, buried long ago by the actual course of development of the armed forces of all countries and by the war experience of recent years, can now be revived. The experience of the present war has proven in a sufficiently convincing manner that the outcome of campaigns and even of wars depends upon the correct application of all the armed forces of a country and not of any one arm. The air force can do much, but without land troops it is not only incapable of achieving full victory on a given front, but even of establishing such a front.

The battle for England refuted the calculations of Douhet's following. The experience of recent battles has also proved that with skilful and stubborn resistance in the air and on land, a numerically superior enemy air force cannot decide the outcome even of separate engagements. Stalingrad is proof of this. In order to break the resistance of the defenders of Stalingrad, the Germans hurled enormous aerial forces against the city. On some days the number of flights of the German air force reached 2,000. The city underwent bombardments which aggregately equalled not only the raid of 3,000 bombers of which Douhet spoke, but three times 3,000 planes. Yet this failed to break the defense of Stalingrad or to determine the issue of engagements even in so limited a sector of the front.

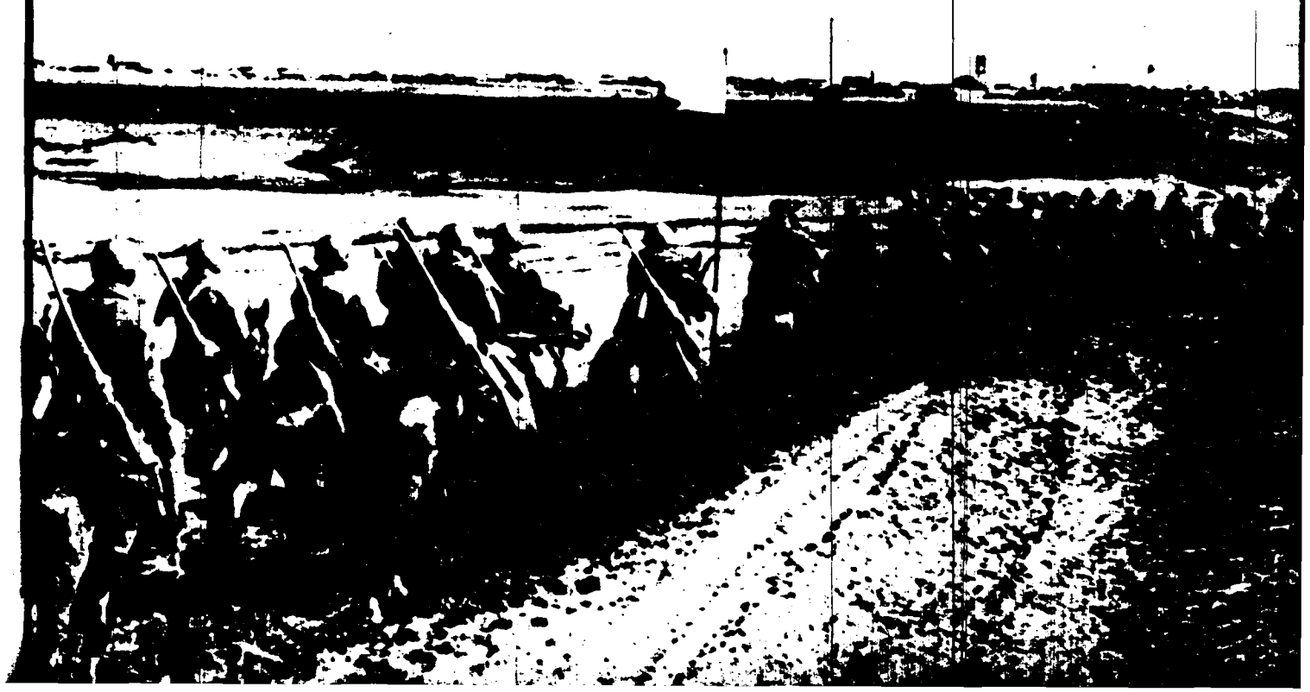
It is high time to discard these retrograde theories which have long outlived themselves and have been refuted by the experience of the present war. *Victory over the common enemy can be achieved only by powerful blows of all armed forces on land, in the air and on the sea.*

*Moscow, October 11, *Krasnaia Zvezda.*

Italian cavalry advancing toward the front near the Don River in the late summer, 1942.

Cavalry in the Don River Region

Soviet cavalry unit moves up on the Southwestern Front, August, 1942. Cavalry detachments and Cossacks are playing a prominent part in the fighting in that area and have done much to stem the Axis tide toward the Caucasus oil fields.



HEADQUARTERS

ARMY GROUND FORCES

OFFICE OF THE COMMANDING GENERAL

ARMY WAR COLLEGE

WASHINGTON, D. C.

To the Officers, Warrant Officers, and Enlisted Men of the Army Ground Forces:

Our second war Christmas is near.

Our first year of war has seen many of the Ground Forces complete home training and move overseas. Many more will join them in 1943.

For those of you who are new in the Army and only just breaking home ties, I ask the friendly and wise help of your more experienced comrades. Thus you will learn the stern duties of the soldier quickly and well, and may appreciate both the privilege and the responsibility of serving your Country in its hour of need.

To the older soldiers, I send a plea for an all-out, unceasing effort in training. It will pay richly on the battlefield, bringing success to our arms and enhancing your own chances of returning home.

To the officers who are building our war army, your first duty is to make yourselves fit by study and training to command the finest soldiers in the world. Lead your men by your own example, by training them thoroughly and wisely, by instilling high ideals of discipline, and by your concern for their comfort and welfare.

To you all, my deepest thanks for your devotion and fine accomplishments during the past year. If the holiday season may not bring you the joys of former years, may your feelings be of satisfaction for duty well done, and of firm resolve for the critical days ahead.

My own humble appreciation of so fine a command.

L. J. McNAIR,

L. J. McNair

Lieutenant General, U.S.A.
Commanding.

Peace on Earth

One year ago, just before Christmas, this nation was stunned by a terrific blow. Pearl Harbor was attacked by the Japanese while their diplomatic emissaries were still in Washington discussing negotiations to prevent a war between Japan and the United States. "Peace on earth, good will toward men!" What a mockery those words became. Revenge, hate, distrust, reprisal toward the Axis, took their place in our hearts.

The material damage caused by the Japs at Pearl Harbor was insignificant in comparison with the resultant effect on the American people. A nation of people with previously divergent opinions and political squabbles, rife with personal animosity, were changed overnight into a nation of people united in purpose and cemented together by a determination to win this war.

In going from peace to war it would seem that we in America have forgotten about the spirit of Christmas, that as a nation we have become so thoroughly engrossed in our armed forces and in the manufacture of guns, tanks, and planes that there is no longer any room in our souls for thoughts connected with the Christmas season.

No, we have not forgotten. We shall never forget. We fight for those principles upon which our nation was founded and upon which it has been maintained; fight that those principles may be carried down through the ages; fight that the opportunities of life, happiness, and freedom may be given to future generations. The symbols exemplified by the Christmas Season are kept alive by the very fact that they are included in the principles for which we are fighting.

So—

To every member of the Armed Forces, we send Greetings of the Christmas Season. May you never lose faith in your God or your country. It is that faith which can bring to us a just victory, and to the whole world, "Peace on earth, good will toward men."

Ambitions Crumble in Dust

The other day, according to Rome Radio, Mussolini visited the grave of Garibaldi, Italian Liberator and Poet, on the Island of Caprera.

Was Mussolini's air of bravado sufficient to hide quaking in his heart? Did he not fear that from the supernatural silence of the tomb Garibaldi would rise before him, point an accusing finger, and repeat his famous panegyric:

> "England is a great and powerful Nation, foremost in human progress, enemy to despotism, friend of the oppressed; and if ever England should be so circumstanced as to require the help of an ally, cursed be the Italian who would not step forward with me in her defence."

For Mussolini has cast to the winds, not only all that he had built up, but all that Garibaldi had built up. In the years before military ambitions, and visions of territorial conquests had blinded his other senses, Mussolini had rendered illustrious service to the Italian Nation, and the Italian People. The Nation's economic ressurrection was one of his most splendid achievements.

But then followed his affiliation with Hitler, whose malign influence is like a withering gust on a desert plain, destroying all that is true and noble in mind and body. The evil in Hitler permeated Mussolini, and one terrible aspect of the wreckage is that the Italian People, once a People of Love, Laughter and Song, have been dragged from their happy homes, to furnace the charnel house of the mighty Axis War Machine.

And so today, the Italian People, without means of their own rescue, are just pawns in Hitler's vast bid for world domination. Mussolini has sold them to the Common Enemy, just as he has sold himself, for his pretence of dictatorial powers, in the running of the Axis War Machine, is just a bluff—a cloak that will be rudely torn from him at the first moment that it suits his Boss, Hitler, the real oppressor of the Italian People.

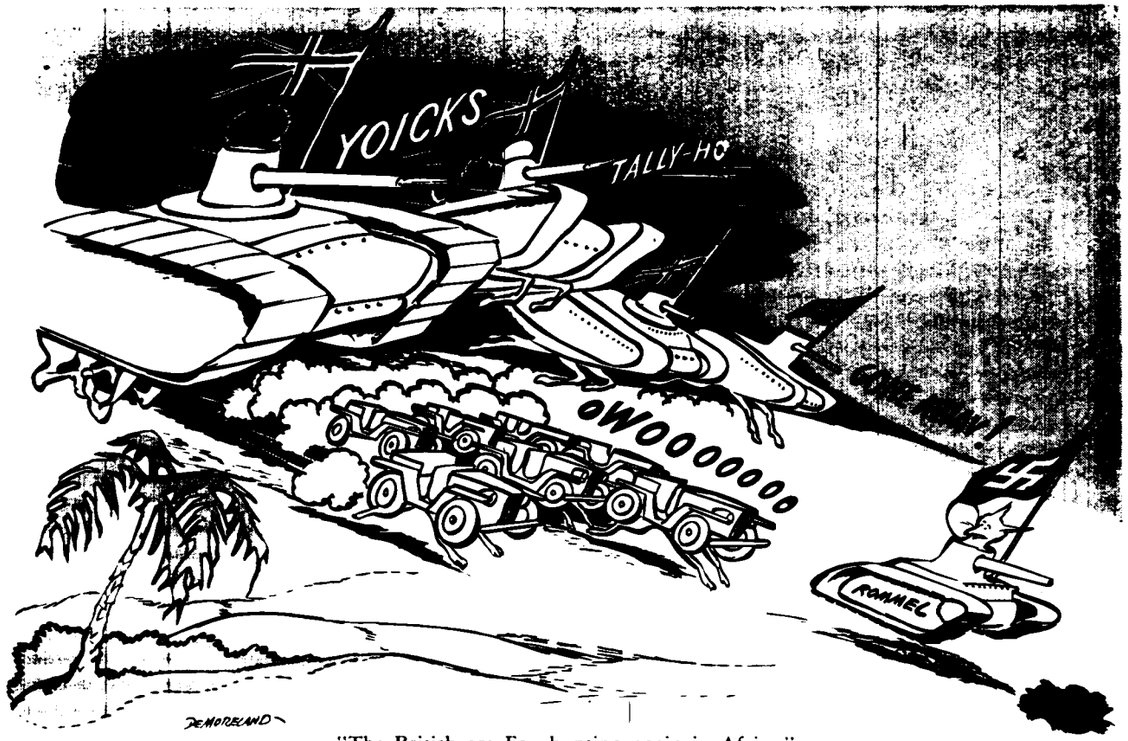
Hitler's whole life has been marked as one of betrayal of his best friends—even of those who placed him in power, and conserved his position in power. And in these great betrayals, he has left a trail of death, as guns barked a crescendo to each purge.

And it is to this sinister figure that Italy, at the behest of Mussolini, has entrusted its destinies. Mussolini, it is clear, always held Hitler suspect, but at the time France lay prostrate and dying, under the Hitler heel, Mussolini could no longer restrain his jackal instincts, and entered the war. His hopes of a greater Empire, however, have fallen by the wayside, and the Empire that Italy once proudly proclaimed is now vested in others—one-third to Hitler, one-third to the Emperor of Abyssinia, and one-third to Britain.—*"Reveille"*—Sydney, Australia.

Annual Meeting

The annual meeting of the United States Cavalry Association will be held at the Army and Navy Club, Washington, D. C., at 8:00 PM, Monday, January 25, 1943.

Formal notification, together with proxy cards, will be sent to all active members of the Association within the continental limits of the United States. Several im-



"The British are Fox hunting again in Africa."

portant questions regarding policy, organization, and possible constitutional amendments will be discussed, and it is urged that all members who are stationed in the vicinity of Washington be present. Members who will be unable to attend are requested to return the proxy cards promptly to the Secretary, U. S. Cavalry Association, 1719 K Street, N.W., Washington, D. C.

Active members of the Cavalry Association are officers of the Cavalry Arm—Regular Army, Reserve, or National Guard. Organizations, civilians, noncommissioned officers, and officers of other arms may become associate members of the Cavalry Association without the privilege of voting.

Planning Ahead

A need for horse cavalry seems to be presenting itself in India where the enemy might be looked upon as a menace. The whole east coastline from Ceylon to the delta of the Ganges will undoubtedly be requiring constant patrol. The northeast corner will also be menaced. In this country this same cavalry can be called into the advances which will ultimately be made when the Japanese are on the retreat.

Both India and Australia have certain supplies of native horses, their number is not known, but they have long been known for their cavalry and for their horses. This would lead us to believe that it would not be impossible to mount troops, sent over ready to go into action, even if their mounts could not reach these shores at the present time.

Constantly before our minds must be the eventual phase of the enemy on the run. When this time comes, it is more than probable that there will be much terrain where the horsed cavalry will not only be of advantage, but even necessary, in order to perform reconnaissance work and maintain contact with the retreating enemy.

It is within the bounds of possibility that we may come to a point where a great coördinated drive may be made by the British of India, the Chinese and the American expeditionary forces on the same front. Then by an army coming up from the south from the Egyptian front, the whole drive might be a joint Russian-British-Chinese-Australian-African-American-Indian Army drive on Europe, with its objective to sweep down on the Germans and the Italians from the west, which would allow of the army now in England making their landing on the Continent.

The air is full of rumors, regulations on animal transport, nothing definite, nothing given out. General Stillwell needs planes and cavalry to work in cohoots on reconnaissance; General MacArthur needs planes and cavalry and so on. Remember there are places where cavalry is necessary, maybe we and our allies have not

reached there yet, other than as defensive units; maybe we have been driven from some of them, where had cavalry been there, it would have been a different tale, Burma for instance.

There is much in the air for the mounted cavalry, where there is smoke there is fire.—*The Chronicle.*

Faith

Tobruk back in Allied hands—it's like England hearing church bells ring again after two years without a church bell.

Tobruk back in Allied hands is a reminder that war is more than planes and guns. It's what a tiny band of men clung to so desperately holding out for 186 days after all of Hitler's dive bombers—what men held fast to in their hearts even after it was lost again. It's what men and women on Malta believed in holding out in all of their agony, and now coming back to avenge it all. It's what men must have held fast to at Dunkirk when England's last ship rushed in to share in bitter humiliation and defeat only to come back in a proud and giant armada of 850 ships sailing to Africa.

It's what men like Alexander hammering Rommel, and Anderson now marching toward, must have felt on that day at Dunkirk when they shook hands and promised each other in all that rubble and ruin of Dunkirk—"*We are coming back*"—while Hitler prepared to fly to London. It's one weapon that Hitler cannot build and Germany can never have—*faith*—when everything goes wrong.

It's MacArthur saying farewell to men who fought and bled at Bataan and watching Japan move in and pressing General Wainwright's hand saying—"*We'll be back.*" It's Stillwell coming out of Burma, hammered, hurt, beaten—he and a gallant little army crying, "For God's sake, give us planes"—and Stillwell pledging his word—"*We are going back.*" It's Cordell Hull holding fast to his plan when all about him men were shouting and complaining—Hull holding fast to his plan to fool Hitler and Laval in Vichy until the blow was struck.

It's what men on Guadalcanal hang on to so fiercely against all of Japan's might and power and carved into a glorious stand. One weapon Hitler can never build—the faith a free man holds fast to when everything goes wrong. And now it's Tobruk again. It's what all decent men and women will feel again Sunday when church bells ring in England.

The famous Bow Bells won't be heard—Hitler's bombs destroyed all their heartwarming call to prayer. St. Paul's may not ring—their song was shattered by the Nazi bombs. Many a village church bell won't ring where the mark of Hitler's bombs have come—but if only one bell is heard in all of England, free men and decent men everywhere will hear it, and human hearts will be raised again by it's call. Men everywhere will understand it's promise. Bells which were to signal Hitler's invasion now peal out all of man's faith—as solemn and happy an hour as men have ever known.—GABRIEL HEATTER, November 14, 1942.

"Three Blind Mice"

As we come to the end of our first year's participation in this war, the effect of our armed forces is beginning to be felt by the "three blind mice"—Hitler, Mussolini, and Hirohito (our apologies to the rodent family). "See how they run!" Not very far yet to be sure; there is always plenty of fight left in a rat even when he is cornered, and we cannot afford to turn our backs on them in overconfidence. It is always a very difficult job to get rid of vermin.

The instigators of the "New Order" have proven that their tenets have no place in a civilized and peace-loving world. They have practiced the theory that it is better to take than to give, but never for a minute have they allowed the *people* to forget the spirit of *giving to the state*. No indeed. At first there were a few citizens within the Reich who failed to grasp the "New Order" idea, but Goebbels and Goering soon altered such an embarrassing situation by allowing the Gestapo a free and persuasive hand, which their Axis partners quickly emulated. Now the German, Italian, and Japanese people have been hoodwinked into giving everything that they had—including their freedom.

The "New Order" practices the theory that the people exist solely for exploitation by the state and the state, for exploitation by three greedy rats and their contaminated henchmen.

Mussolini and Hirohito have become so blinded by the lust for larger domains that they have sold the peoples of Italy and Japan lock, stock and barrel down the river to Hitler. Now the perfidious Italian braggart has been so dominated by Hitler that he is reduced to a whimpering puppet. Hitler is still so blinded by the successes of his depredations and conquests that he continues to pretend that he can force the New Order down the throats of the civilized world.

The "three blind mice" are yet to be caught, but that they will be is our firm determination.

New Cavalry Journal Personnel

Master Sergeant Ledyard B. Clark has recently joined the staff of THE CAVALRY JOURNAL. This new affiliation was made possible through the coöperation of Major John E. Coleman, Editor of *The Field Artillery Journal*, who allowed Sergeant Clark to be transferred to THE CAVALRY JOURNAL. Sergeant Clark was graduated in 1940 from Harvard University, where he was Editor of *The Crimson*, the college daily, during his senior year. He will have charge of the circulation and assist editorially.

Mrs. Evelyn Drayton has been added to the administrative staff in charge of the Book Department. She will insure prompt attention and efficient service on all book orders. Watch our book reviews and ads, and let us help you with your Christmas orders!

German Miscalculations in 1942 Russian Campaign*

By Professor A. S. Yerusalimsky

A RECENT Berlin broadcast contained some very significant statements. We refer to Lieutenant General Dietmar's latest reviews of the operatons at Stalingrad and in the Caucasus. In August the Germans still expected triumphant reports from their command, but these have been long delayed. Weeks have passed. Winter is here and the reports are not yet available. "Everybody anxiously waits to learn when and how these battles will end," says General Dietmar. "One might say that time is holding its breath." And then Dietmar continues: "The difficulty of the task is obvious to everyone." To "everyone" means also to the German Command.

The Germans launched their summer offensive with the intention of taking the Volga stronghold by one violent thrust. It hurled here a tremendous army of over 1,000,000 men, more than 1,000 planes and large numbers of tanks. It planned by a violent thrust not only to capture the city but to smash the Red Army and thus force a decision in the Eastern campaign before winter. This attempt was accompanied by a big propaganda hullabaloo, repeating the same performance that took place in October, 1941, when Hitler proclaimed that the Soviet Union had "ceased to exist as a military factor in world policy."

At the beginning of their offensive at Stalingrad, the Germans stated that shortly the city would be taken by storm. Then they said that the city must be taken, as it is of decisive strategic importance. Having captured several streets, they stated that Stalingrad had been taken. Then, suddenly, they tried to convince the world that Stalingrad was of no great strategic importance.

These changes in the tenor and content of the German propaganda are very significant. They show that despite the seizure of considerable Soviet territory, the ultimate plans of the German Command in the 1942 campaign have been wrecked.

The history of wars knows many examples of fierce and stubborn battles for populated places. Such were the battles of Liege, Namur, and Maubege in the first World War. But none of them can compare with the battle of Stalingrad, with the heroism of the troops defending the city. "In the modern history of wars," Dietmar admits, "the fighting for Stalingrad stands out as an example of well-planned defense of a big city. The German troops have to fight for literally every yard of ground." General Dietmar, of course, prefers to remain silent as to the price the Germans have to pay for each yard. However, their losses in man power and in the rate of development of the campaign constitute the significant factor of the general military and international situation.

No less significance is attached by the world press to the fighting in the Caucasus. The Germans long since reported that by driving a wedge in the Stalingrad area they had cut the Soviet front in two, and thus could easily realize their plans for the conquest of the Caucasus.

In his latest review, General Dietmar tries to explain why the Germans have as yet failed to seize the Caucasus and consummate their far-reaching plans. Again he refers to the geographic and climatic factors hindering the German advance.

The Germans reported that the Red Army troops defending the Caucasus are cut off from sources of replenishments and cannot offer sustained and serious resistance. Now General Dietmar complains: "Our troops are experiencing no small difficulties, as the Russians hurled fresh reserves to this sector of the front. The tasks confronting the Germans and all troops fighting in the Caucasus," he complains further, "are very hard. Attacks are accompanied by alternating success. Whenever our troops cease to advance, it is the Bolsheviks who at once pass to the offensive."

In conclusion Dietmar says: "But the German Command does not intend to sacrifice men to speed up successes. It prefers to preserve its man power." This is something new. But this does not mean that the Germans have dropped their plans for seizing the Caucasus —on the contrary, fresh thrusts and drives may be expected. But Dietmar's complaints contain the admission of an incontrovertible fact—that Hitler's army is bleeding white, that Hitler's plan of routing the Red Army has collapsed and that the dreams of decisive successes in the East have been scattered to the winds.

*Krasnaia Z[illegible], Moscow.

ONE MISCALCULATION

General mud makes going tough for German soldiers in Russia.

DEFENDERS OF STALINGRAD

Red army troops travel from one part of bomb-shattered Stalingrad to another to bolster its defense.

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Tactical Training Data by Cable from Moscow

FOLLOWING are a series of articles on tank tactics written by officers of the Red Army and cabled direct to The CAVALRY JOURNAL by the War Department, USSR, Moscow. The above facsimile is the first of some fifty such pages that constituted Major Tretyakov's article, A Tank Brigade in Maneuver Defense, which begins on the opposite page. Following it are other articles, all of which contain valuable detailed material on methods of tank warfare learned from actual combat experience on the Soviet-German front.

Major Tretyakov's article describes the maneuvering of a tank brigade in defensive action and cites the vulnerability of *junction points*—areas at which one tank unit joins another.

Major Marlennikov's article, "Tank Counterattacks," analyzes successful methods of counterattacking enemy tank attacks, particularly when the enemy's flank is supported by self-propelled artillery.

In "Tactical Principles in Tank Battles," Colonel Kilomaytsev stresses the rôle of aviation in tank warfare —both for reconnaissance and for bombing. His emphasis on the need for constant and careful reconnaissance at all times is of particular interest in this issue because it represents a Soviet point of view coincident with General Scott's views based on observations in Libya.

"Tank-Mounted Riflemen," by Colonel Kononenko, deals primarily with tanks and infantry in close operation and cites examples in which tank landing parties (tank-mounted riflemen) have successfully thwarted the enemy and advanced the position of their own tanks.

Major Slosarov, in "Tank Tactics in the Mozdok Area," gives a brief summary—a "bird's-eye-view"—of tactical tank warfare.

These studies are of particular interest and value in view of the fact that they deal with actions as recent as the late summer of 1942 and are written by officers of an army that has combatted the Nazi panzers for more than seventeen months, and in that time has destroyed more men, machines and guns of the Axis horde than all other armies combined.

A Tank Brigade in Maneuver Defense

*By Major B. Tretyakov, Red Army**

DURING July of 1942 Soviet infantry units, fighting against numerically superior German forces, had to fall back in the direction of the town of Livny. The enemy then made every effort to follow up his success and capture Livny in order to insure a flank attack against Voronezh. The situation was very grave, and it was essential that the enemy be prevented from dealing a blow from south to north at the defense troops of the Red army. This task was assigned to one tank brigade.

The brigade headquarters were aware that as many as two regiments of Germany infantry, plus artillery and fifty tanks, had reached Krasny and that up to two hundred enemy tanks had broken through the first line of Soviet defense on the left flank of the division. Thus, the enemy seriously threatened the left flank of the area defended by the brigade. In view of this, the right flank of the Soviet infantry battalion had fallen back eastwards.

Both flanks of the brigade were menaced by enemy tanks, so they were concentrated for defense in two groups and placed at the flanks of the motorized infantry, which was the containing force. The two groups of Soviet tanks were assigned the areas to be defended by them and were informed of the direction that their counterattacks were to take. During the night the enemy carried out several active reconnaissance raids on some sectors of our defense and tried to locate the flanks of the brigade.

From information received by our intelligence during the day the enemy intentions had become clear, and in spite of the enemy's numerical superiority, the commanding officer of the tank brigade decided to hold the enemy on their present line until the arrival of our reserves.

The next day, supported by aircraft and artillery, the enemy launched fifteen attacks in an attempt to break the resistance of the brigade. Each time the enemy was repulsed by fire and counterattacks of tanks and driven back to his original line of departure. His frontal attacks were unsuccessful, so he concentrated his superior forces against the left flank of the area defended by the Soviet tank brigade and began to wedge into their defenses by advancing from the south along the railway line. The enemy was counterattacked by a group of tanks brought up from the rear and again had to return to its line of departure, while the Soviet tank brigade regained its defensive position. Meanwhile, adjoining units on the left flank retreated still farther to the east, and the brigade was left in a semicircle.

The enemy did not abandon hope of crushing the defense brigade, and his attacks became much more fierce. Soon he succeeded in wedging into the disposition of the brigade and to the rear of our containing group (motorized infantry). Further resistance in defense of the line held by this containing group might

*By radio direct to The CAVALRY JOURNAL from the Soviet War Department, U.S.S.R., October 24, 1942.

Russian tanks protecting flanks of motorized Infantry.

Soviet tanks going to the counterattack in the region of Vyazma.

have resulted in their annihilation; so to regain lost ground and to protect the withdrawal of the motorized infantry to the next line, two tank groups at our flanks counterattacked simultaneously. Thus, enemy troops who had wedged into our defenses were held in a vice in the depth of the combat formation of our brigade and were either destroyed or dispersed. This counterattack enabled our motorized infantry to retreat to another line.

Then the flank groups of tanks took up new defensive positions at the flanks of the motorized infantry. The combat formation was the same as before. By that time the adjoining infantry unit on our left flank had taken up a new defensive line. As a result of this fighting the enemy lost over a thousand officers and men, sixteen tanks, eighteen antitank guns, and two long-range guns.

In this particular instance the tanks were concentrated in two groups and carried out their tasks by means of active defense in counterattacking the enemy at his flanks while he was wedged into the depth of our combat formation. (Usual combat formation was changed and did not consist of the two groups echeloned in depth as usual.) The placing of two shock groups of tanks at the flanks of the containing groups of motorized infantry was dictated by the situation. If the flanks of the defending tank formation had been open, shock groups echeloned in depth would have had to protect the flanks and, in addition to this main task, defend the area occupied by them.

The same combat formation may be used in defense along a wide front when one shock group is insufficient to repulse the enemy attacks against defending flanks, as it would not be able to counterattack at both flanks of a wide front. Terrain may also necessitate a formation of two shock groups of tanks, particularly if there are obstacles impeding the maneuver of tank units along the front of a defense sector or in its depth.

Shock groups of tanks may be used to much advantage at the flanks of a containing group of motorized infantry, as they are likely to be in a position to take the enemy into a vice and make flank attacks without any regrouping. This can be successfully applied either when the enemy is wedged into our combat formation or when the enemy is attacking our first line of defense. The second echelon of defense, however, will be weakened if the tanks are divided into two groups. It is essential, therefore, that rapid concentration of tanks into a single shock group be ensured if such combat formation is adopted.

Of particular importance in the case cited was the timely withdrawal of the motorized infantry to a second line of defense; also the proper coördination of active operations of tanks with those of the withdrawing motorized infantry. This prevented the enemy from pursuing the withdrawing motorized infantry, and the latter had time to consolidate a new line of defense, while the enemy had to regroup and start preparation for a fresh attack.

At night the Germans made reconnaissance in force to locate the flanks of the Soviet brigade and brought up their fire resources to the region of the railroad station. The new line was not suitable for proper defense, inasmuch as buildings and an inhabited locality to the southwest of the station formed natural obstacles that impeded the maneuvering and fire by our tanks in front of the first line of defense and, at the same time, enabled the enemy to concentrate his forces without loss. For this reason a plan of operations provided for the further withdrawal of the brigade eastward to an area which was more advantageous. In this defensive area the brigade

could rest its flanks on the banks of a river and be well protected to the rear by the inhabited localities along the river bank. It could also make use of advantageous terrain for firing and maneuvering, both in front of and behind the first line of defense.

To give the rear installations time to withdraw it was decided to force the enemy to deploy into combat formation in front of the old line of defense and withdraw our units to the new defense area just before the beginning of the enemy attack, in order to make the enemy strike at an empty place.

In the morning the enemy opened concentrated fire at the area where he was expected to deploy and soon began active operations in an attempt to envelop the flanks of the brigade. As soon as the menace of being surrounded became real, the brigade promptly made a fighting retreat to the new defense area. At this stage of the fighting, defensive activity of the brigade was characterized by active counterattacks into the depth of the enemy combat formation for the purpose of disorganizing his regrouping. For instance, when the enemy was reported to be pressing our neighboring units on our right flank and bringing up reinforcements to his left flank in order to exploit the success, it was decided to frustrate the enemy plans by checking his progress.

Four medium and one heavy tank from the tank group at the left flank of our motorized infantry were detailed to attack the enemy column moving along the front in a northerly direction. Tanks of the right group were to support the counterattack of the left one if required. The left group maneuvered in rear of the defending motorized infantry, then made a surprise attack on the enemy column, and destroyed almost entirely as many as two companies of Germans, eleven antitank muskets, and thirteen guns of various caliber. Thus, the defending force frustrated the enemy intentions and checked his progress on our right flank by taking advantage of the regrouping of the enemy forces.

Nevertheless, having detected a weak spot in the line of our defenses somewhat to the west, the enemy began to press harder at this point with a view to breaking through in a northerly direction. The Soviet tank brigade was assigned the task of barring the way of the enemy after he maneuvered in rear of our defense. Carrying out this maneuver was made possible chiefly by previous counterattacks, which had checked the progress of the enemy and enabled the tank brigade to get away and regroup.

Under cover of darkness the brigade took up the assigned area. The front line defense was ten kilometers long, so the tanks were again divided into two groups and placed at the flanks of the motorized infantry, and all matériel was placed in trenches and camouflaged. Our infantry entrenched themselves along assigned lines, and by evening 4.7 were ready to offer stubborn resistance. Beginning from 5.7 the tank brigade retained its defensive area and parried all attempts of the enemy to break through our line and turn our flanks.

At this stage the tank brigade launched several counterattacks, most of which crossed the front line defense from behind the flanks of our motorized infantry. The enemy intentions were always discovered in time because of sustained all-round reconnaissance and well organized observation. The enemy concentrated up to two regiments of infantry with artillery, and tried to advance three separate times, but each time just before the attack one of our tank groups counterattacked his flank and threw him back to his original position.

In the afternoon when the enemy had exhausted himself in front of our first line of defense, the brigade

Russian tanks moving out of concealment to make a surprise attack on hostile columns.

launched a counterattack with all of its tanks. Having suffered heavy casualties in man power and matériel, the Germans gave up frontal attacks and began to withdraw in a westerly and north-westerly direction. Information gained by reconnaissance showed that they were concentrating a shock force against our right flank.

On the evening of July 6th the enemy concentrated up to two regiments of infantry with artillery and ten tanks with the intention of dealing a blow in the northerly direction. Under such conditions it was preferable to defeat the enemy piecemeal and frustrate his plans instead of waiting for his attack. Our right tank group, supported by fire of the left tank group and of the motorized infantry, attacked the enemy in one sector, and put him to flight, then withdrew to its line of departure and got ready to parry the attack from another direction. The enemy recovered, brought up his reserves, and again launched an attack. As a result of fierce fighting that lasted for four hours, the enemy succeeded in pushing our units back but suffered heavy losses, and the onslaught began to slacken.

The tank brigade commander then took advantage of the favorable situation and ordered an attack to advance on the enemy from the flank. The Germans sustained heavy losses and retreated in a southwesterly direction. In this particular case, the enemy was first exhausted in front of our first line of defense, then counterattacked when his combat formations were unable to parry the counterstroke.

One consideration should always be borne in mind, however; namely, such a flank attack might have proved a failure if the Germans had had reserves—particularly tank reserves—and had counterattacked our shock group of tanks from the flank. Consequently, when launching a flank counterattack along the front the attacker must always ensure protection of an open flank by artillery fire or by tank security detachments of antitank guns placed at the flank.

In mobile defense, counterattacks by an enemy prepared for the offensive will not be infrequent, but the antitank defense of the enemy as a rule is inadequately prepared, and his combat formations are not ready to repulse our counterattacks. In such cases, these latter must be of a decisive nature. Counterattacking tanks must wedge into the thick of the enemy, and if the enemy begins to withdraw, pursuit must not be carried too deep—must not exceed the range of artillery protecting our counterattacking tanks. If the counterattack is launched decisively by the whole of the combat formation, pursuit must be carried on until the enemy is completely annihilated. Such counterattacks should be launched on a wide front; otherwise, the enemy would be able to cut the counterattacking tank group from its infantry and artillery by means of flank counterattacks. Consequently, pursuit in a decisive counterattack should be undertaken by several tank formations. Such an operation, as a rule, should be prepared and carried out as carefully and as methodically as an offensive against an enemy that has been stayed.

As a rule, the enemy, first of all, tries to locate the flanks and the point of junction of our defending units by making use of all forms of reconnaissance, and after locating them he tries to strike there. If the enemy succeeds in wedging into our defenses he makes every possible effort to exploit his success by using all available resources even at the expense of weakening other sectors. At the same time, the enemy deals additional blows at one or several sectors, mainly to flanks or to the rear. Consequently, particular attention should be paid to defense *junction points*. Heavy cross fire of antitank and automatic weapons should be organized at these points, and, if the time permits and it is generally possible, they should be protected by landmines and obstacles against infantry attacks.

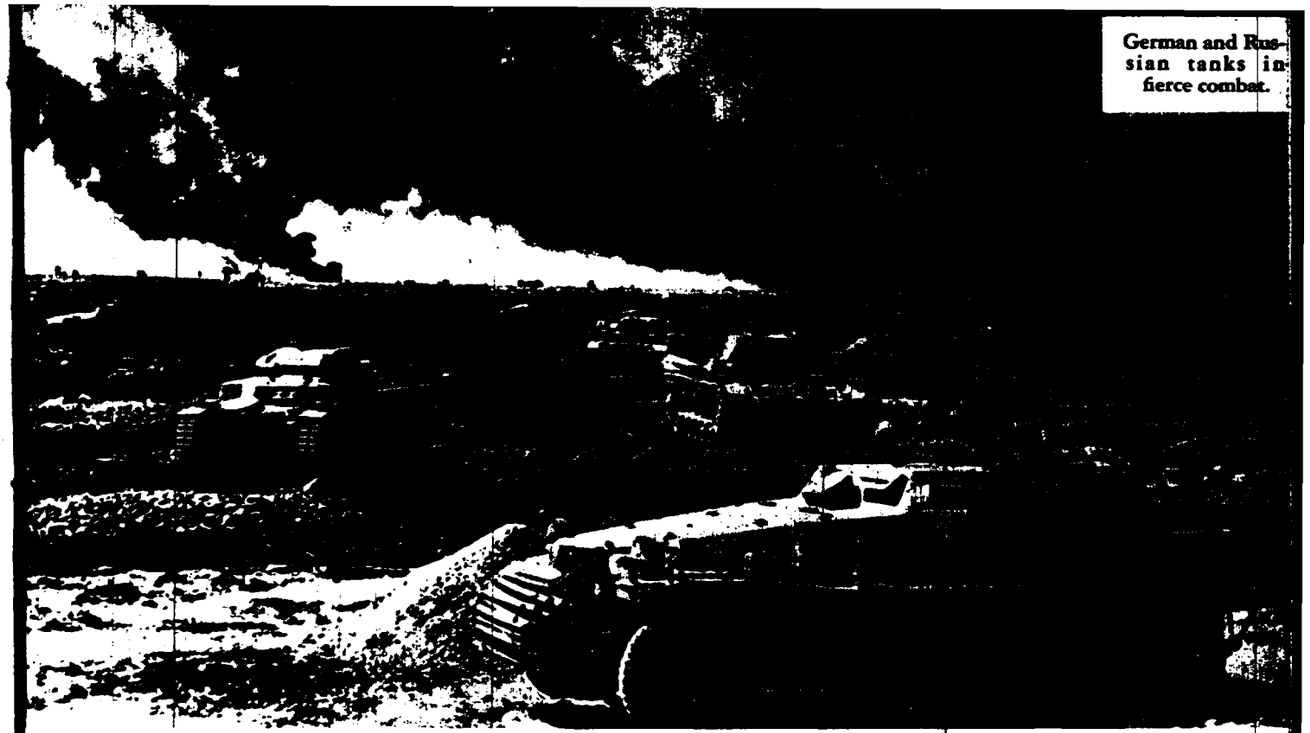
In the above instance, the activities of the tank brigade headquarters provided well for the protection of all points of junction in the defense, and that is why the enemy never succeeded in detecting our weak spots. Movement of reserves towards these points of junction or flanks menaced by the enemy, however, should be carried out in due time, so that the enemy should not be allowed to wedge in and consolidate his position. Otherwise, the operation of local reserves will be of no avail.

Enemy intentions should be discovered in time. To this end, all-round sustained reconnaissance should be carried out, particularly around points of junction. Such reconnaissance should be strong enough to penetrate sufficiently into the depth of the enemy area, and it must be assisted by observers at points of junction.

The commander of the unit of formation in a defending area is responsible for the defense of the point of junction. As a rule he is appointed by order in which the command must give instructions regarding the protection of the junction point and organization of cooperation between neighboring units, while headquarters must check on the execution of the order.

Meeting strong resistance at one point, the enemy would probably leave a protective force there and regroup his main forces for dealing a blow at another point. Therefore, the defender must understand the enemy maneuver by means of reconnaissance and observation in order to prepare beforehand for parrying the blow.

In defense, a tank formation should always be ready for any emergency. The commanding officer must organize his defense to enable shock groups of tanks to maneuver easily in depth of its combat formation and to parry enemy maneuver by counter maneuver of tanks and antitank weapons. This is the only way of thwarting the favorite method of the Hitlerite troops. Liaison and intercommunication are also of great importance for the success of any defense, and they must work well to ensure control of operations and maneuver.



German and Russian tanks in fierce combat.

Tank Counterattacks

By Major E. Marlennikov, Red Army

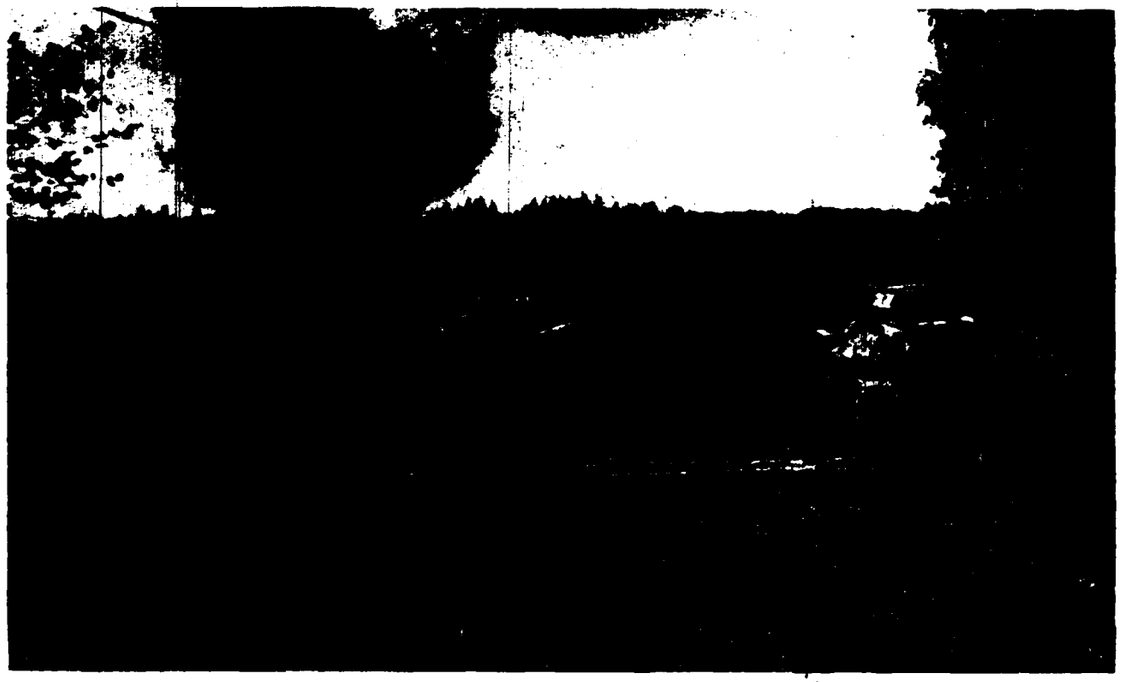
WHEN the Germans launch an offensive they mass their tanks in the direction of their main blow in order to drive a wedge in the defense zone and disrupt the defender's system of fire and control. To parry the tank counterattacks, they direct a heavy fire at the counterattacking tanks, and create an impression of well-aimed fire. When they succeed in halting the counterattacking tanks, they often leave a small panzer group of *braplip* (chiefly tanks of the T-4 type) to hold the adversary's tanks with frontal fire.

Meanwhile, the main body of panzers, under cover of this *braplip* group, is immediately regrouped for striking a blow at the flank or rear of the counterattacking tanks; therefore, counterattacking tanks must conduct ceaseless reconnaissance operations at the enemy's flanks to determine his plan of attack and to track down the group detailed for this enveloping maneuver.

At the same time, the group of defending tanks assigned to cover the frontal operations must conduct careful observation of the main tank forces of the enveloping enemy group. As soon as the blow is struck at the enemy's flank they must, in turn, move forward and attack the panzer holding force.

Another method employed by the enemy when he meets counterattacking tanks in offensive battle is to move a small group of panzers in front of the main tank forces, select a favorable position for opening fire from shelter, then immediately put up a smoke screen. This screen enables the main enemy tank force to reach a firing position, and as soon as the smoke screen lifts, all tanks open fire at the counterattacking group in an effort to disable it.

Should the counterattacking group begin to retreat, the whole enemy panzer force at once begins pursuit in an attempt to reach the flank of the retreating tanks. Such enemy tactics might succeed provided that the counterattacking tanks fail to conduct reconnaissance operations in front and on the flanks. Should the counterattacking group accurately estimate the enemy tactics in good time, it must immediately undertake to countermaneuver. While leaving a few tanks (preferably heavy ones) in front of the screened enemy panzers in order to hold them with frontal fire, the main tank force should choose firing positions on opposite slopes of elevations, preferably at the flanks. As soon as the enemy opens concentrated fire at the tanks left for hold-



Small groups of Soviet tanks attempt to hold hostile tanks while main force moves to flanks.

ing operations, the latter will do best to beat a retreat in order to lure the enemy tanks into pursuit and bring them under the flank fire from the main defending force.

Another possible maneuver, should conditions and terrain warrant, is that of leaving a small group (as recommended above) to hold the enemy main force, while the counterattacking tanks advance at high speed into an attack of the already spotted Nazi flank.

A counterattack must be resolute, with fire concentrated not only along the full length of the enemy line, but at some one of the most vulnerable points. This usually produces great moral effect, and causes the enemy to begin a retreat in order to regroup and attack in another direction. As soon as the enemy begins to regroup or withdraw from battle, the defending tanks must take advantage of this moment and, without ceasing fire, strike a blow in an attempt to cut the enemy formations and destroy the isolated groups of panzers which have lost contact with the main force.

When the enemy has superiority in tanks, *counterattacks with tanks must be avoided*, as in such a case it is best to use tanks for operations from ambush. Tank ambuscades must have sufficient depth; tanks must be placed in tank trenches, and they must be well camouflaged: Actual combat experience suggests the following method of attack from ambush: First, a group of tanks are detailed to lure the enemy. Then they maneuver over the battlefield, lay down a barrage in front of the advancing tanks, and roll back in an effort to bring the enemy within range of the ambush. As soon as the enemy panzers approach one of the ambushed groups, it suddenly opens fire over the open sights. This operation is best recommended to be carried out by an ambushed group situated on the flank of the enemy tanks. Sometimes, however, it is best to let the panzers pass and open fire at their rear.

Every crew must strive to disable the enemy tanks, and as soon as the traction of one is damaged, fire should be shifted immediately to a moving tank, since a tank brought to a standstill can no longer continue the attack, and its fire is not as dangerous.

When the enemy gives up the attack or begins to retreat or to regroup, the defending tanks in ambush must immediately attack, supported by fire from other ambushed tanks. Meanwhile, the maneuvering tanks attempt to strike a blow at the enemy flank or prevent his retreat. By coming upon ambuscades in this manner the enemy will be destroyed piecemeal.

For counterattacking in defensive action, as a rule, the enemy employs small groups of tanks either combined with infantry or used independently.

A counterattacking enemy panzer group used independently selects firing positions on opposite slopes of elevations, and as soon as the attacking Soviet tanks emerge at summits or elevated points, they are met immediately with massed well-aimed fire from the enemy tank guns; and the fire is maintained until the

advancing force gives up the attack. Thereupon the second and third echelons of advancing Soviet tanks must adapt themselves to the terrain and strike a flank blow in an attempt to penetrate to the rear of the counterattacking panzers. The first echelon stays behind for a frontal and holding operation. Then as soon as the enveloping group reaches the enemy flank, the first wave begins to push forward and pursues the enemy to a complete route. In a counterattack, it is important to reach a fixed line in good time, prevent the infantry from being cut off from the tanks, retain control of the battle, and operate strictly in accord with a plan synchronising all operation with other arms.

Whenever enemy panzers counterattack jointly with infantry, they ordinarily advance together, with the infantry usually in small groups. The attacking force may use the same method as outlined above, or, even better, penetrate the enemy rear in order to prevent the infantry from retreating and consequently destroy it.

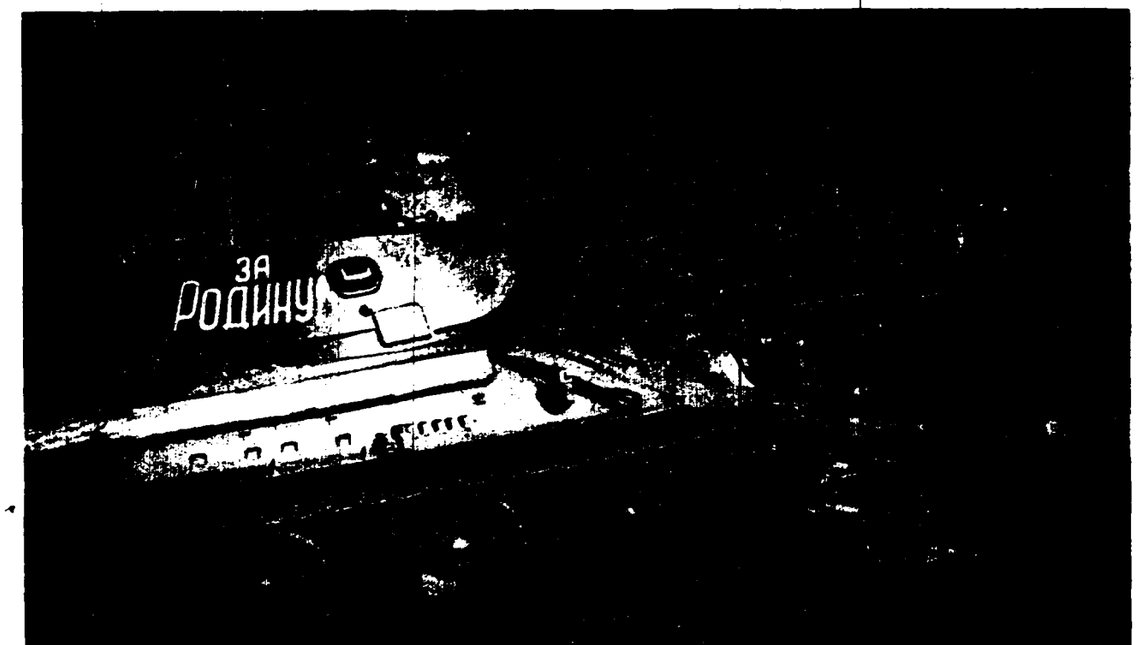
When tanks attack with tank-borne troops, it is advisable to land these troops in the rear of the enemy infantry and detail a few tanks to support their operations, while the main tank force drives full speed forward in an attack on the enemy mortar and artillery positions, the last tank wave being followed by the infantry.

When tanks have penetrated enemy positions to a depth of six to seven kilometers, it is time to bring up the infantry and strike a blow to deepen the penetration. Ordinarily, after Soviet attacking tanks have effected a deep penetration, the enemy begins a hasty and frequently disorderly retreat to a second line of defense. The attacking force must immediately take advantage of this, because a few minutes delay might undo the success achieved; therefore, attackers—particularly tanks—must sweep resolutely forward and ruthlessly destroy the enemy man power. They must reach a new defense line right on the heels of the retreating enemy and give him no time to consolidate his position. Moreover, tanks must continually conduct reconnaissance operations in the front and on the flanks in order to warn of the approach of counterattacking reserves.

Enemy ambushed groups usually strike blows at the flank and rear of attacking tanks. Should the first tank echelon be subjected to such an attack, the second echelon destroys the ambushed panzers by attack from the rear or flank.

The Germans have time and again revised the tactics of their tank troops. At the beginning of the war, the enemy hurled large masses of tanks into battle in several echelons and infiltrated to the rear of Soviet forces with little regard for the danger of their infantry being cut off from the tanks. But Soviet commanders learned to smash the enemy tank columns and destroy their infantry; so the Germans revised their tactics and brought the infantry closer to the tank waves. Nevertheless, the enemy infantry has often been cut off by Soviet rifle units and prevented from taking advantage of the success scored by their tanks.

Having suffered tremendous losses in men and ma-



Tank-borne troops in mobile reserve preparing to mount.

chines, during their 1942 summer offensive in the south, the Germans have again changed their tactics. In an effort to prevent heavy losses and take advantage of the success of every individual massed tank blow, they have now interspersed tank formations with motorized infantry.

Each change in enemy tank-infantry tactics calls for a change in the method of struggle against them; but this requires knowledge of vulnerable spots in the enemy formations. By saturating his tank troops with motorized infantry, the enemy weakens his tank blow; and in this event, the defenders must again pursue the same old purpose—that of cutting off infantry.

The defenders must concentrate long-range artillery fire on the hostile armored vehicles, and when the enemy tanks reach a distance of one thousand meters from the main line of resistance, fire power must be directed at vehicles from antitank rifles, machine guns, and antitank guns. Artillery shifts point-blank fire at the enemy tanks, and as tanks draw nearer they must be met first with antitank gun fire and later with antitank rifle fire. Groups of tank destroyers at an advanced position of cover and troops at the main line of resistance must be charged with the task of destroying the enemy tanks at close range.

The enemy may capture the main line of resistance and bring up infantry which will try to capture the first line trenches and destroy the defenders. In such a situation the defenders must act boldly and resolutely even if the enemy tanks effect a deep penetration of defenses. Enemy infantry attacking dugouts and trenches in groups of ten to fifteen can easily be destroyed by fire from the trenches.

The second wave of enemy motorized infantry usually alights before it reaches the trenches—some two hundred to three hundred meters in front of the main line—then attacks in support of the first wave, and attempts to develop its success. This second infantry echelon is usually stronger than the first, and all means of fire used in close range fighting must be directed against it. Enemy tanks that have made a deep penetration of defenses and been cut off from the infantry must be destroyed by artillery fire and tank counterattacks.

It is advisable to have detachments of mineplanters in the district of the second defense line who can immediately begin to plant mines in the way of the enemy tanks that may break through. Upon encountering mine obstacles the enemy tanks, as a rule, cease the attack in this direction and either withdraw from the battle or begin to regroup.

On the Western Front, for example, the enemy recently resorted to the following offensive tactics:

First, the German tank echelon moved forward supported by self-propelled artillery at its flanks, which covered the flanks and supported the attackers against counterattacks. While moving on the flanks, the artillery was always ready to open positional fire during any counterattacks at the flanks and tie down the operations of the counterattacking Soviet tanks. Simultaneously, the German tanks began to penetrate the rear of the counterattacking group in an effort to destroy it. Meanwhile, the self-propelled artillery on the unattacked flank covered up the maneuver of its tanks from forward positions.

In this case it was important that the enemy action be well understood in order that proper countermeasures could be taken. The self-propelled enemy artillery advancing on the flank of the tank groups was easily distinguished before it reached our main line of resistance.

On the other hand, had the enemy forced a breach in our main line and pushed his attack on our rear, the most advisable method of counterattack would have been the following:

The counterattacking Soviet tank force would have been hurled rapidly in small groups at one of the enemy flanks and, after having selected a favorable firing position, it would have concentrated its fire at the vulnerable spots of the enemy tank formation. The main group would have been kept informed of the enemy operations. As soon as the enemy tank group had begun a flanking maneuver attack, then the Soviet tanks would have headed for the enemy's flank; and had he employed his self-propelled artillery to protect his flank, the main Soviet tank group would then have struck at the enemy's rear.

This battle formation of enemy tanks using self-propelled artillery on the flanks may also be employed in counterattacks. Conclusions drawn in the present article, however, must not become a stereotyped pattern for all operations of tank units. In deciding on one or another method of antitank warfare, it is necessary in every particular case to take into account the concrete situation that prevails—the battlefields, the terrain, and any other factors having a direct bearing on the situation.

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If all of the military historical incidents since the beginning of recorded history were summarized, the greatest resultant tactical lesson (assuming air superiority) for ground troops probably could be stated as simply as, "*Guard well our flanks and front, and seek enemy flank weakness.*"

With the temperature around fifty degrees below zero Soviet tank maintenance crews "Keep 'em Rolling."

Winter Maintenance of Motor Transport

*By T. Varshavski, Red Army**

IN order to mass troops for certain large scale winter operations it has been necessary to transport large troop units (such as a corps or division) by motor for distances of 250 miles or more. Whatever the tactical considerations, maintenance of motor transport must be prepared in advance and continued until the mission has been accomplished.

All repair and service units must be coördinated under a central head. The commander has two assistants.

One is in charge of the collecting point for tow cars, repair trucks, gas trucks, etc. The two cars are used to pull out vehicles which are stuck; i.e., to pull them off the road or to a field repair shop. In case a vehicle is beyond repair it is towed to the collecting point and delivered to its unit after the completion of the tactical operation. The repair trucks perform minor repairs and distribute spare parts, materials, oils, antifreeze and batteries along the route. The gas trucks refuel empty vehicles and maintain the temporary filling stations. Tractors are used for towing on forest roads or in drifts, and also for dragging snowplows.

The other assistant supervises the field repair shops. These shops are portable and are usually placed about twenty miles apart, near villages if practicable. Each is well marked by signs and is equipped with enough tools and machinery for minor overhauls. In addition, each field repair shop is equipped with stove and Delco-type electric system. The former permits work 24 hours a day with heat and boiling water for the water trucks. The latter gives electric light and power at all times. Responsibility for servicing and repairs, for seeing that the road is clear of disabled vehicles, and for taking care of stragglers, rests on the shoulders of the manager of the field repair shop in each district.

Illustrative of one winter operation covered by the trucks was a route of march 315 miles long. Service and repairs were rendered to 600 vehicles. One field repair shop alone repaired fifty vehicles. Correct organization of the motor transport system and its maintenance greatly assisted the Red Army in preparation for a forthcoming attack.

Comments

This article points out some of the difficult motor transport conditions which have to be overcome under such severe weather conditions as existed on the Soviets' Western Front in the winter of 1941-42. These roads are generally of one-lane width with frequent "drive-offs" for passing and repairing trucks. Sometimes the two tracks are covered by boards—an expensive task in lumber, labor and maintenance. With temperatures as low as 40 to 50 degrees below zero (Fahrenheit), it is necessary to adopt many measures to prevent freezing. As antifreeze is of relatively small value, engines are kept running as much as possible. When it is necessary to stop for a long period of time the water is drained from the radiator. When the engine is started again it is necessary to first flush the radiator with hot water and then fill it with hot water. Thus much gasoline and hot water must be provided. Thin winter oil is used.

The Soviets are very ingenious at making repairs with the minimum of equipment indoors or out. They are physically able to work for hours in extreme cold.

*Military Engineer.

Air–Tank–Cavalry
In Active Reconnaissance*

By Colonel Alexei Ignatyev, Red Army

THE success of a meeting engagement requires above all the gaining of a certain amount of time for its preparation. This can be attained all the more successfully the sooner the actual direction of the enemy's blow is ascertained.

The Red Army's fighting experience reveals that this can be accomplished and the enemy blow delayed by launching land and air operations simultaneously.

Formerly assignments of this nature were carried out by cavalry formations alone. In modern warfare, when the battlefield is congested with tanks and aircraft, *only joint air, tank, motorized and cavalry formations, correspondingly reinforced with antitank and antiaircraft means, can cope with these tasks.*

This combination of tasks—*reconnaissance* and operations to check the enemy—is all the more important since the best *reconnaissance* results are attained in fighting.

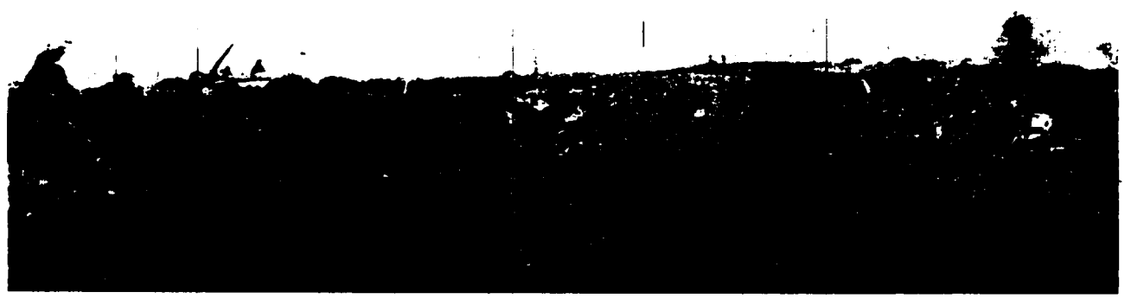
It rests with the army or front command to establish where the tank formations, motorized units, cavalry and aircraft can be used to greater advantage. The proper knowledge of the terrain plays no small rôle in this matter. In modern offensive operations tank formations usually precede army formations. The most effective means of combating them are by countering them with tank formations which must be on a par with the enemy's, both in numbers and quality. For the rest, the success of the battle depends on the leadership of the command, on the discipline and courage of the men, and on the coöperation with the air force.

Once the tank formations emerge from the tank battle as victors, the rout of the enemy's army formations follows as a logical continuation in solving the first task. The tank formations can then be used to help encircle and wipe out separate enemy groups and finally to pursue the enemy after successful battle operations.

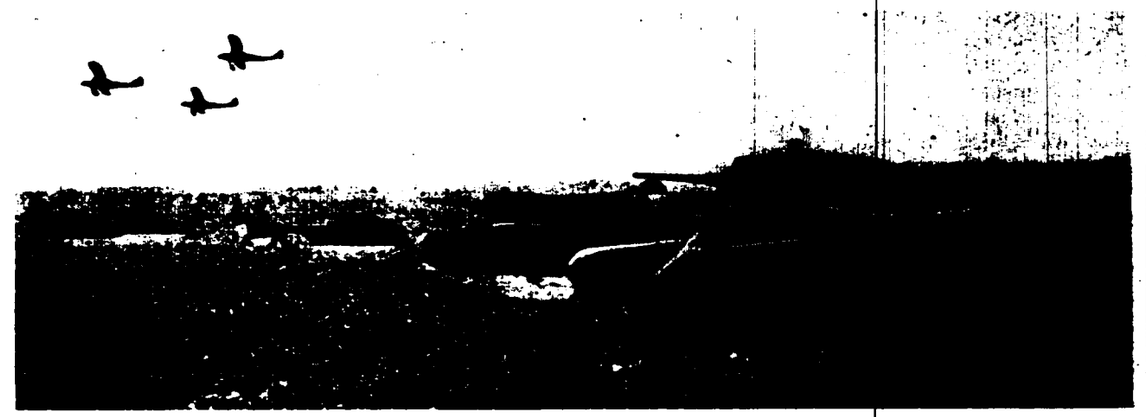
Thus, in a meeting engagement tank formations fulfill the following tasks: *active reconnaissance,* to check advancing enemy groups, combat his tank formations, rout his army formations, encircle and destroy them and pursue the retreating enemy.

Let us examine each of these tasks separately in the light of the fighting experience of the Red Army. Active

*By cable to The CAVALRY JOURNAL through ICN.



Cavalry attacking the enemy in coöperation with tanks and aviation in vicinity of Kharkov.



Tanks, planes, and cavalry move forward together during tactical exercises of the Red Army.

reconnaissance is carried out at a considerable distance from one's own troops and in conditions when big enemy formations may be encountered. Practice has shown that in meeting operations it is expedient to detail aircraft and big detachments of armored fighting vehicles for such reconnaissance activities. These detachments should consist of tank units reinforced with motorized infantry, artillery, antitank and antiaircraft means.

The reconnaissance detachment operates on an area of three or four roads with reconnaissance groups on every road. The forces and strength of the detachment are such as to penetrate the enemy's protective screen, his reconnaissance and vanguard units, and to determine the strength of the enemy's column. If motorized infantry and cavalry accompany the tank reconnaissance detachment, the army or front headquarters plan their movements so that they form approximately one line at the positions where the encounter with the enemy is probable.

The reconnaissance detachment enters into battle with the enemy if the latter's forces are equal or even slightly superior numerically to its own. Part of its forces are detailed to bar the enemy's further progress, the motorized infantry being widely used for this purpose while the rest strike a surprise blow on one of the enemy's flanks.

If the reconnaissance detachment is greatly outnumbered, it can pass over to the defense on any vantage ground or to a defense of maneuvers in order to hold back the enemy and gain the necessary time to regroup its forces.

The strategic tank and aircraft reconnaissance then passes over to the tactical, and the tactical to active reconnaissance. Here it is not the sequence of this transition that is the all important matter, but *continuous reconnaissance* from the period of closing with the enemy until the end of the battle.

Operations between tank formations can take the form of frontal offensive and enveloping movement, flank movement or encirclement. However in all cases it is taken into account that the tanks' fire means remain their basic striking power. From this it follows that when a tank formation goes into battle, its fire means are brought into full play. The tank formations bear down on each other very swiftly. The side that deploys for action first and operates in united battle formation that allows for incessant fire, gains undoubted advantages.

When a meeting engagement is anticipated, it is important to get ahead of the enemy in deploying for battle. With this object in view, the forces must be ready for action in good time—the main forces must deploy for action when the cover units have engaged the enemy. In the interests of greater maneuverability, it is more expedient that the second echelon in big tank formations stand in readiness until it is given a direct battle assignment.

Deployment for action is carried out on terrain that gives the upper hand over the enemy. It is important that the position selected for this purpose offer good cover, scope for maneuvering operations and that it be adapted for fire and the service work of the maintenance units.

A meeting engagement demands swift, decisive, stubborn action to achieve its aim. The lack of clarity regarding a situation must not influence the adoption of a decision and the energy with which operations are conducted. To strike a decisive blow at the enemy, time must be gained, the enemy pinned down on a definite area and *his maneuvering* possibilities thus *restricted.* This task is carried out by the active operations of reconnaissance and advanced units which in a given case figure as auxiliary groups. This group operates on a wide front and if need be sacrifices itself to hold the enemy in a defined district until the main forces of the tank formation launch the decisive attack.

The tank formation strikes its main blow at the enemy's most vulnerable spot. Moreover, it is important that the direction of the blow allow for the swift con-

centration of forces and decisive superiority of forces.

In some cases, however, the main blow has to be struck where the enemy has scope for maneuvering and holds the upper hand in forces. In that event, the tank formation after deploying occupies a defensive position, while firing from under cover, inflicts maximum losses on the enemy, and then attacks the adversary when his fire weakens, or when he turns away or retreats.

After gaining success in one direction, the tank formation transfers its main blow to another. This naturally demands flexible and uninterrupted leadership of the units. The tank battle over, the tank formation proceeds to mop up the enemy's army formation. The tank formation now has a number of advantages. All that the enemy's army formation can do now, faced by tanks, is to assume a defensive attitude. The enemy's scope for offensive action has been greatly limited. What is more, the enemy needs sufficient time to fortify his positions and organize his fire means, in order to make his defense a success.

Usually the army formation deploys comparatively slowly. Having deployed for action in one direction, it cannot rapidly regroup its battle formation for action in another.

The tank formation takes advantage of these shortcomings and by using its auxiliary group, forces the enemy's army formation to deploy in one direction, while its shock group decisively attacks from another. The enemy's army formation holds certain advantages over the tank formation only in the range of artillery fire. Hence, when preparing for offensive action, it is not expedient for the tank formation to remain at the frontline of the army formation for any length of time.

The commander of the tank formation approaches the enemy within the distance at which the enemy's artillery fire is ineffective because of a lack of observation and sends reconnaissance groups ahead in different directions to prepare for battles.

On receiving reports of reconaissance groups, particularly those in relation to the terrain, he assigns its task to the auxiliary group, while he personally leads the shock group to its initial position for the subsequent blow on the enemy's flank or rear. After the shock group has been given its battle assignment, the commander of the tank formation, together with the reserves, leaves for the command post, whence he directs the battle.

The auxiliary group distracts the attention of the enemy from the direction of the main blow and draws upon itself the foe's antitank means. The auxiliary group operates in open order along a wide front. The shock group strikes the enemy suddenly from a direction where he is least prepared to repel a tank attack. The group operates vigorously in a compact formation. It maneuvers in united fighting order and uses its fire means to the fullest.

If the enemy begins to withdraw, he must be pursued. This task should be assigned to fresh tank formations. In the absence of such, not only the tank units at hand are used for the purpose but also separate subdivisions that took part in the battle. The formations of units detailed to pursue the enemy are afforded the necessary time to make their preparations. The pursuit may be frontal or flank. Since the enemy demolishes everything en route and erects obstacles to keep his path of retreat under heavy cover, it is better to carry out pursuit along parallel routes.

The tank formation boldly surges forward, closes in on the enemy's rear positions, bars the path of retreat and forces the enemy to accept battle in unfavorable conditions. The longer the enemy is pinned down, the greater is the opportunity afforded the pursuing units to gain on the retreating enemy; the more difficult the position of the adversary and the quicker his debacle.

Aircraft, as well as separate groups from the main forces of the tank formation take part in the operations to check the retreating foe. These groups attack the enemy columns, go into ambush, attack from different places, and force the enemy to deploy and move more cautiously. In other words, they try to gain the necessary time needed by the pursuit units. The army command indicates the positions where the retreating enemy must be forestalled, has paratroops dropped on these positions, and takes the necessary measures to ensure the tank formations' supply and maintenance services.

★ ★ ★ ★

Three factors, according to the classic doctrine of Clausewitz and the modern theory of the German *blitzkrieg*, form the basis for offensive action. They are surprise, speed, and superiority in matériel or fire power.—MAJOR F. O. MIKSCHE, *Attack*.

Panzer Tactics in the Mozdok Area*

By Major S. Slesarev, Red Army

THE operations of the German tanks near Mozdok are of very active character. The Germans hurl from 100 to 120 panzers into an attack on a single sector and attack usually in two or three waves.

In the fighting near Mozdok the German tanks usually advance in strict line formation with intervals of some 250-300 meters between echelons. Moreover, the tanks advance not in an extended column but in a chessboard order which permits the opening up of cannon fire by all tanks simultaneously. On the one hand such a battle order affords the Germans a certain advantage in fire; but on the other hand, the fact that the tank echelons are spread over a 600-700 meter stretch renders the struggle against them easier.

The Soviet tanks and artillery begin by concentrating fire on the first echelon. As soon as a new wave of German tanks reaches the sighted position, however, the defenders immediately direct concentrated fire at the newly sighted panzers, and leave the antitank troops to deal with the remainder of the first echelon which may have gotten through. As a rule, their armor-piercing bullets and grenades complete the destruction of the surviving enemy panzers or put them to flight.

This method of antitank warfare is the product of experience. During the early days of the fighting near Mozdok, the Soviet tankmen and artillerymen, in an attempt to cause the enemy the heaviest possible losses, kept up their fire at the first enemy panzer echelon until all the tanks were disabled or until the latter managed to effect a deep penetration of the Soviet positions. While attention was thus concentrated on the head tanks, the rear echelons wedged the main line of resistance.

Successful resistance to the enemy tank attacks is also facilitated by isolating the German infantry, which usually advance behind tanks. Concentrated fire from Soviet artillery and mortars has pinned the infantry to the ground for hours. Today the German infantry advances *between the tank echelons*. When the infantry meets Soviet fire now it scatters, not backward, but sidewise.

Time and again the Germans have tried to advance with their infantry in front of the tanks, with fire support from the rear; but this method has not succeeded in getting the infantry through the Soviet main line. On the contrary, such a battle formation restricted the maneuverability of the panzers and led to greater losses.

Heavy losses have been inflicted on the enemy tank concentrations by the Soviet bombers, Stormoviks, and by long range artillery which many times have dispersed the panzers at points of concentration and on the march. This compelled the Germans to remove the starting positions of their tanks to a distance of four, five and sometimes even eight kilometers from the Soviet main line of resistance.

Because of their tremendous losses in tanks, the Germans have lately sharply reduced the scope of tank attacks as well as the number of tanks taking part in the attacks. The Germans have paid a heavy price in past tank battles, and time obviously is required to replenish their battered divisions with new machines and to repair the damaged and mutilated ones. It is significant that they are trying at all costs to remove their damaged panzers from the battlefield.

Another feature of the fighting in the Mozdok area is that the Germans use only medium tanks for massed blows, although every tank division is equipped also with heavy and light tanks. Knowing the strength of the Soviet defenses, they deliberately keep the light tanks out of battle and wait for a break-through to take place. The Germans are also hesitating to risk their heavy tanks whose number, apparently, is limited.

*By cable through ICN exclusively for The CAVALRY JOURNAL.

Units of the Red Army Infantry, sticking close to a heavy tank, filling in a gap.

Tactics of Ambush*

By Colonel Pavel Rizin

THE commander of a Soviet infantry battalion acting on the defensive feared an enemy penetration on his flank. The terrain of the flank was thickly covered with bushes. There was an open meadowland in front, crossed by a shallow depression which ran from enemy lines in the direction of the bushes and ended about eighty yards from them. Small groups of the enemy could use the depression to reach the bushes and then filter through behind the battalion lines.

To prevent any possibility of this, the commander decided to lay an ambush in the zone held by the right flank. A section of tommy gunners under Senior Sergeant Bukvin was detailed for the ambush. The tommy gunners crawled into the bushes under cover and took up suitable positions. The sergeant placed his men so that the enemy would be caught in enfilading fire. He ordered the men not to fire without a signal from him.

The commander's fear was justified. As soon as the sun began to sink enemy tommy gunners gathered in the depression one by one until there were forty of them. They moved carefully up the depression in the direction of the bushes. Soviet tommy gunners, not betraying their position, followed the movement of the enemy group. The enemy left the depression and made a dash for the bushes. When they were within fifty yards the sergeant gave the signal, and a hail of lead burst on the Germans from three directions. About a dozen were killed instantly. The remainder threw themselves on the ground, but the level land offered no protection from bullets. The tommy gunners continued to mow them down, and disposed of the entire group in less than five minutes. The ambush had removed the danger of enemy penetration behind the battalion lines.

Ambuscades Used by Tanks and Cavalry

During the present war ambuscades are being extensively used, not only by infantry but also by other arms of the service, *particularly tanks and cavalry*. The infantry make use of ambushes everywhere—on the line of march, on reconnaissance, on convoy duty and during both offensive and defensive actions. The most frequent point of ambush is the road along which the enemy is expected to move. Quite often small groups of infantry make their way behind the enemy lines to his communications and there lay an ambush from which great losses can be caused to approaching enemy columns and transport.

A carefully prepared ambush makes it possible to inflict heavy losses on a numerically superior enemy. Success depends upon the suddenness and speed of the action. Sudden fire from a well-camouflaged group of troops or separate machine guns, followed by a bayonet charge, invariably proves successful.

The slightest neglect, or too hurried preparation, on the other hand, may lead to the failure of the ambush. Not long ago an ambush of two infantry platoons under Lieutenant Strelnikov was stationed on a road along which an enemy infantry column was expected to arrive. The lieutenant placed his men in position. About a platoon of enemy infantry appeared on the road. These were the vanguard of a column two companies strong. When they arrived at the ambushed point, Lieutenant Strelnikov gave the order to fire. The vanguard was almost annihilated, but the column advancing behind them, hearing the firing, immediately extended in open order and prepared to give battle. The ambushers could only retreat.

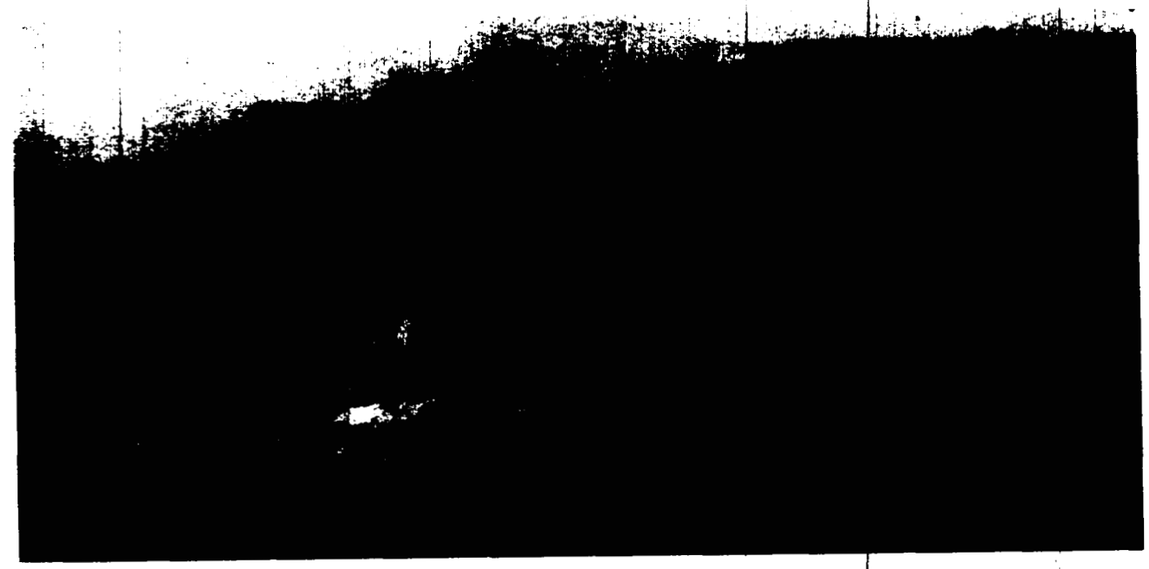
This ambush failed because the lieutenant gave the order to fire prematurely. He should have let the vanguard pass, awaited the approach of the main body, and poured his fire suddenly into that column. It would have been better to split the ambush itself into several groups in different places, instead of keeping them all together, so that they could fire on the enemy from several directions simultaneously and at the same time confuse the enemy with regard to the size of the ambush.

Strength of Ambush Units

Experience has shown that on roads and forest paths it is more advantageous to place an ambush on both sides of the road. The enemy is caught in infield fire and usually completely annihilated. As far as the strength of the unit used for ambush goes, this must be determined for each concrete case separately. Sometimes a company is required, sometimes a platoon, while it may even happen that a single section of tommy-gunners or riflemen is sufficient. It is important that the unit detailed for ambush should be mobile and able to make good use of cover.

Actual practice has shown that in organizing an ambush every detail of the plan of action must be carefully thought out—disposition of troops, fire strength and actual moment of attack. Particular attention must be paid to the question of communication between groups placed on different sides of the road. And most important of all, it must be remembered that even a well-organized ambush can fail if the troops do not display both endurance and discipline. Poor camouflage, a slight movement or a premature shot can give away the ambush and so lose the advantage of the element of surprise.

*Soviet Embassy *Information Bulletin*



Tank-Mounted Riflemen

By Colonel Kononenko, Red Army

TANK landing parties* were widely used in battles on the Soviet-German Front in 1942. Experience has shown that tank landing parties, composed chiefly of automatic riflemen, are successful in their operations if they are carefully trained to act in coöperation with tank crews and think out all possible variations of operation in advance. Mounted on tanks, they streak into German lines, spread along the trenches, and engage in action against fire nests of the Germans in cellars, houses and structures. Automatic riflemen destroy what has not yet been demolished by artillery fire and tanks. At the same time they help to forward the movement of tanks by showing to tank crews the antitank gun emplacements of the Germans and by destroying the personnel of antitank guns with their fire.

Tank landing parties operate independently as well as in coöperation with attacking infantry elements after artillery preparation. The tasks of the tank landing parties are mainly to capture the commanding heights and supporting points, to destroy separate fire nests in the depth of enemy defenses which hinder the forward movement of our infantry, and thus pave the way for the progress of the next echelons of advancing Soviet tanks and infantry.

On one of the sectors of the Western Front a detachment of ten tanks with a landing party of sixty automatic riflemen under First Lieutenant Petrov were detailed to break through the German defense line and capture a supporting point by surprise attack. The task of the detachment was to break through into the depth of German defenses and suppress German antitank weapons in order to prepare passage for the following echelons of advancing Soviet troops.

Organization and preparation of the tank landing operation was accomplished in one day. The landing party was made up of volunteer automatic riflemen who received additional handgrenades and light mine-throwers. Before the beginning of the operation tank crews and automatic riflemen carried out careful reconnaissance of the approaches to enemy defenses from our own line of departure and into the depth of enemy defenses as much as could be seen from our advanced observation points. Besides a map every tank commander had received the route map of attack of the landing party. The starting point chosen was one kilometer behind the first line. The concentration and start of the tank detachment to the first line was camouflaged by artillery fire and air attacks of Soviet planes on the German position. Besides that, objects of attack were bombed by Soviet planes on the night prior to the attack.

Tanks were left at the starting point in column formation before dawn. Without opening fire the tanks suddenly broke through the first line of German defenses so quickly that the Germans could not fire a

*Editor's Note: "Tank Landing Parties" refers to the practice in the Red Army of mounting as many automatic riflemen as possible onto heavy tanks and transporting them quickly into action.

Russian tank-borne troops ready to attack Nazi position.

single shot from their antitank guns. Only the German automatic riflemen and machine guns opened fire and began lighting up the place with illuminating rockets. The rockets helped the men of the tank landing party to orientate themselves and enabled the tank crews to steer their machines according to a planned course. One tank detachment passed through the first line of German trenches without loss and at dawn broke into the village of Yeremino, occupied by the Germans. There, while in action, they crushed with their caterpillars approximately forty loaded carts, twelve antitank guns that were standing in the street and several scores of German soldiers who were caught unawares by the attack of Soviet tanks.

While the tanks were in motion, automatic riflemen of the landing party shot down German soldiers who were fleeing in panic. The tank detachment continued its advance. Germans had already been informed of the attack of Soviet tanks and near the village of Kostino at bridgehead, tanks were met by fire of six antitank guns and automatic riflemen. Tanks carrying on fire against the enemy moved in column and while in action took up fighting formation. Automatic riflemen of the landing party jumped off tanks and quickly took up the fight against German automatic riflemen, and by outflanking the German antitank guns they destroyed the enemy detachments.

As a result of short fighting the tank landing party destroyed six antitank guns and up to one hundred German soldiers. The detachment captured a bridge and continued to advance. The losses of the Soviet tank detachment were two damaged tanks and several men wounded, mainly those slow in jumping off the tank. Those advancing tank detachments shortly met another antitank battery of three guns which opened fire at them. The Soviet tanks returned the fire while in motion and the automatic riflemen, jumping from their machines, destroyed the German gun detachments with their fire. This fighting tank detachment suffered no losses.

Carried away by his success, the commander of the tank landing party, 1st Lieutenant Petrov, made the mistake of not previously reconnoitering the ground and localities lying before him. The tanks were now operating in areas unknown to him and unobservable from Soviet advanced observation points. As a result, the tank detachment got under crossfire of German antitank guns between the villages of Belaya and Maryino. The first volleys of German artillery damaged four tanks and put out of action a number of automatic riflemen—those who did not manage to jump off the tanks in time.

Quickly taking up a battle formation, the tanks opened fire at enemy artillery while automatic riflemen jumped to the ground, attacked the Germans, and opened fire at detachments of the nearest German antitank guns which were hidden in the bushes. Very soon the German gun detachments were destroyed and the Soviet tanks, after putting the antitank guns out of action, were in a position to get out of the pocket of fire. Then the landing party, having captured the enemy position, was soon supported by the following-up echelons of Soviet troops.

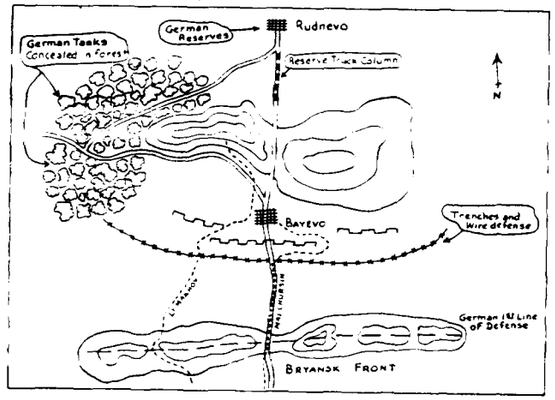
Thus as seen from the above example a well organized coöperation between a tank landing party and the tank crews made possible a rapid and easy suppression of enemy resistance and subsequent fulfillment of the assigned task. The only shortcoming was a mistake made by the commander of the tank landing party at the end of the operation when he moved across the previously unscouted area without necessary precautions and consequently suffered heavy losses from the ambushed enemy. During the entire operation the tank detachment destroyed twenty-six antitank guns, forty loaded carts, and about 150 German soldiers.

Another example: on the Bryansk front a tank landing party was assigned a more complicated task—that of capturing a commanding height in the depth of a German defended area and holding it until the arrival of the main body of the division. A certain division was given the task of breaking through German defenses and capturing their stronghold. It was found from a careful study of the situation and from examination of war prisoners that the village of Bayevo, which was to be attacked by the unit under Major Chursin, the neighboring village of Rudnevo and the adjoining forest, presented a single stronghold with closed defense and fire system. In case of attack on the supporting point in Bayevo it seemed probable that German reserve units were stationed somewhat westward of Rudnevo supporting the point from which they would attempt to outflank the Soviet units; while the German tanks hidden in the forest would attack advancing Soviet infantry. In order to enable the forward elements of advancing Soviet troops to fulfill their task, it was necessary, therefore, at the very outset to disorganize the coöperation between enemy units that occupied the stronghold.

About eight kilometers behind the German front line was a height which commanded the road between Bayevo and Rudnevo and the enemy positions. It was absolutely necessary to capture that height first. All approaches to the forest, sheltering enemy tanks, could be kept under fire from that height. It was decided to capture the height with the aid of a tank landing party. A tank group of twelve fighting vehicles, mounted by automatic riflemen under Lieutenant Makhov, was assigned to capture the height and bar the way of German reserves to the front. In case of enemy retreat, they were to hinder the withdrawal of German artillery and machine guns from Bayevo.

The artillery attack began at dawn. Soviet tanks, together with a tank group carrying the landing party of about seventy automatic riflemen, launched an attack

German soldiers surrendering to a tank-borne detachment of the Red Army.



The operation between Bayevo and Rudnevo.

at the moment of transfer of fire. Having broken through the first line of German defenses the tanks attacked enemy fire nests and then headed straight for the outskirts of Bayevo. A group of tanks with a landing party passed through a break in the wire entanglements, went along the trenches in the enemy rear, then suddenly took the road not covered by fire and rushed direct to the height. The tank group made a rapid crossing of the distance without meeting any resistance and approached the height which was fortified with trenches and wood and earth fire nests. But when the tank group approached the trenches they were mostly empty with only a few fighting tanks and machine gunners on duty. After a brief fight, the Germans were destroyed and the height taken.

The losses of the tank group were a few men wounded and one tank damaged. The damaged tank was dug into the earth and converted into a fire nest. The tanks took up position to keep the roads from Rudnevo and the forest under fire while automatic riflemen also constructed firing positions.

Meanwhile the advance on Bayevo by Major Chursin's unit was slowed down. The enemy offered stubborn resistance and in some places counterattacked. German tanks, hiding behind houses, kept Soviet tanks under fire and inflicted losses upon them. By the middle of the day the forces of the attackers and those of the defenders were almost equal. Then German reserves came along the road in trucks from Rudnevo and moved in the direction of Bayevo. At that moment Soviet tanks and the landing party on the height opened fire at a truck column barring their way. A part of the trucks were destroyed and caught fire; the rest turned back. German tanks came out of the forest, and moved in the direction of Bayevo, but when they heard fire in the vicinity of the height, they headed for it. Not far from the height they were stopped by fire from the dug-in tank. A part of the Soviet tanks suddenly appeared from behind the height and struck at the flank of German tanks. The latter retreated to the forest and opened fire from the forts. All German attempts to advance on the height were unsuccessful throughout the whole day. At night Soviet automatic riflemen captured enemy motorcyclists carrying a message to the commander of the garrison at the supporting point of Rudnevo, which demanded immediate help. Other German motorcyclists met Soviet tanks in the dark, were fired at by the automatic riflemen, and turned back to Bayevo. By dawn the garrison in Bayevo thought itself surrounded, and threw up all resistance. A part of the German soldiers fled; the rest surrendered. After the capture of Rudnevo it was discovered that it was still strongly fortified. In Rudnevo the Germans had abandoned 1,800 5mm guns, 4 mine-throwing batteries, and 24 machine guns in fire nests.

Thus the capture of an enemy supporting point was made possible by the skilful use of a tank landing party, which suddenly captured a commanding height in the depth of the German stronghold. Because of this the Germans were unable to move up their reserves in support of the garrison in Bayevo. In addition, the presence of tanks and automatic riflemen on the height made it impossible for the Germans to withdraw their weapons.

Experience has shown that for successful operations of a landing party it is necessary that the landing party be assigned a definite task which should be clearly explained; that careful reconnaissance of approaches to the enemy frontline be made in advance; that their immediate and subsequent tasks should be explained to the landing party; that the plan of coöperation between the landing party, tanks, artillery, and advancing infantry be worked out; and that the action of the landing party should be sudden.

Only the physically fit, hardy, grave, resolute and those who have already been under fire, should be selected for such an operation. It is very important to have trained tank landing groups in units. Commissioned and noncommissioned officers should be men who have had practice in fighting inside the enemy defense zone. Automatic riflemen of the landing parties should be armed with automatic rifles, semi-automatic rifles, and handgrenades. Big tank landing parties should be supplied with mine-throwers, tank machine guns and antitank rifles.

When training men of the landing parties, great attention should be paid to the skill of men in mounting and dismounting tanks at standstill or in motion. They must also be trained in rapid solution of problems of how to capture resistance nests inside enemy strongholds. Men of landing parties should be trained along with tank crews and taught the methods of communication and signalling for coöperation. Conventional signals, colors of rockets, methods of target designation by tracer bullets, and radio signalling to be used should be decided in advance. Training of men for landing parties should begin with the training of individual fighters in the mastery of arms, acquirement of habits of rapid evaluation of ground, and choice of firing positions and targets.

Tactical Principles in Tank Battles

(Air Support—Ambush—Reconnaissance)

By Lieutenant Colonel P. Kolomaytsev, Red Army

EXPERIENCE on the Soviet-German battlefront has proved that battles between tanks are inevitable. Whenever possible, however, it is more profitable to destroy the enemy tanks by action of aviation, artillery or other antitank arms, and leave Soviet tanks free to operate against enemy personnel and small-arms weapons.

Battles in which *only* tanks participate seldom, if ever, occur; therefore, *combined coördinated action of all arms* is imperative for victory. On many occasions, however, Soviet tanks have turned the tide of battle for their infantry by inflicting defeat on the German armored forces. *The more active the participation of air force, artillery, sappers, and infantry (especially motorized) in tank battles, the greater are the chances of destroying the enemy tank groupings and the smaller our losses in tanks.*

The rôle of aviation in the battle against enemy mechanized forces is particularly important. As the air force can engage enemy tanks both while they are grouped together in rendezvous and before they come within range of our guns, it must act as the initial striking force. Air reconnaissance relays by radio to the air staff the locations of enemy tanks, which should then be subjected to intensive aerial bombardment as quickly as possible. Aviation should follow them after they disperse and make every attempt to prevent them from reaching the field of battle if they cannot be put out of action. To carry out the latter task, our aviation must have air superiority over the battlefield and must base their planes just as close to the front as practicable.

Even in the course of battle between tanks, the air force should not break off engaging enemy tanks. Our individual tanks must be clearly marked, and a well coördinated system of radio and signal communication between our planes and tanks must be organized before the battle. In this way, the commander of the mechanized force is able to request aerial bombardment on the battlefield during any phase of the fighting. The task of the air force in tank battles is threefold: First, they bomb the enemy in their jump-off positions, during their movement into battle, and when they concentrate at their rallying point. Second, enemy mechanized auxiliaries such as gasoline trucks, munitions, field repair shops, *et cetera*, should be put out of commission. Third, the air force must protect our own tanks from enemy air attack.

In order to *first weaken the enemy tanks with all means at our disposal and then finish them off with our own tanks*, artillery should engage them when they come within range and observation. When confronted by numerical superiority of enemy tanks, particularly in defensive operations, the main brunt of the struggle against them must be borne by the artillery and a system of prepared antitank obstacles. The rôle of artillery involves not only the destruction of enemy tanks but also the silencing of enemy antitank defense on the battlefield. In the course of battle separate groups of tanks may be compelled to withdraw. Such withdrawal should always be covered by artillery, which insures safe maneuverability of its own tanks.

In defensive operations our tanks are sometimes concealed and at first engage the enemy tanks with stationary fire. Then, along with the infantry shock troops, they counterattack the enemy groups which break through our forward line. Sometimes it may prove more advantageous to make counterattacks deeper in our defensive positions. The reason is that the enemy usually has to be weakened by surmounting the antitank obstacles and fire to reduce his advantage of superiority in numbers. *Counterattacks should be launched at the moment when the enemy is disorganized, and before he can regroup his units for another attack.*

Commanders of tank units must be kept constantly informed about the enemy tanks opposing them—as to number, groupings, whereabouts at any given moment, and direction of any movement. It is up to him to decide just how to engage small (or large) numbers of enemy tanks. After a cool, methodical, cautious estimate, he must decide whether it is more advantageous to attack precipitately with movement, or temporarily to assume the defensive and engage the enemy with stationary fire from concealed positions. By having his tanks cruise aimlessly about the field of battle he may

Russian front line air station—a Soviet pilot sits at his controls while bombs are swiftly fixed in position on his aircraft.

The effect of an aerial attack on a German motorized supply column in Russia.

lose them by enemy tank and antitank fire; whereas, by keeping them too long in a stationary position he may find them outflanked and caught in an enemy pincer movement. Normally, the position of the commander is in the rear where he can observe his tanks and be able to effect general command.

A tank battle is primarily one of fire. While movement is important, the mere threat of outflanking the enemy will not necessarily compel him to withdraw. It is better to utilize the best positions the terrain affords for well-aimed, rapid fire. In the final analysis, *the outcome of tank battles is decided by the number of direct hits of armor-piercing shells in vital parts of the tanks.*

If the enemy tank groups are discovered in time, they can sometimes be effectively attacked from ambush. Generally, a large number of tanks should be used and the enemy tanks lured into your trap if possible, so that all your tanks can fire upon them simultaneously. An ambush should never be attempted under enemy observation. Speed is imperative because to leave the tanks too long in one place may both affect the tempo of your offensive and expose your tanks to enemy air attack.

Repeated instances of biting at the bait put out by the other side have resulted in losses of unnecessary numbers of tanks. In tank battles it is also necessary to pay attention to your flanks and front by constant reconnaissance. It is generally a good practice to keep a few tanks in reserve.

In tank pursuits it must be remembered that antitank traps are often set up in depth. The Germans resort to all sorts of ruses to lure their enemies into just such regions. Don't break into a village or forest without prior reconnaissance, as the enemy often builds strong antitank defenses there. Tanks should enter such places only along with the infantry or in rear of it.

In battles in which much material is used, the problem of evacuating and repairing it is of primary importance. If evacuation is accomplished speedily, a large percentage of damaged machines can be quickly repaired and returned to active duty. In order to insure success in that field, in the final analysis, you, and not the enemy, *must remain master of the battlefield on which the tanks have fought.* Even when compelled to withdraw you should hold the field long enough to allow removal of all damaged tanks. Otherwise, the fighting strength of your tank units becomes rapidly exhausted.

The Armored Force—Air Team

By Colonel Frederick R. Pitts, (Cavalry) G.S.C.

SINCE World War I, the horse cavalry, the mechanized cavalry, and finally the Armored Force, have realized the vital importance of the air-ground team. These branches have led the way in air-ground training in their employment of observation aviation. The Armored Force, in coöperation with the Air Corps, was among the first to develop the technique of employing combat aviation in support of ground troops. Not until the 1941 maneuvers was any serious attempt made by the Army as a whole to employ supporting combat aviation.

We now have an Air Support Directorate in the Headquarters, Army Air Forces, to handle air support matters; Air Support Commands to provide operational units; and Field Manual 31-35 which sets forth the basic doctrines for employment of aviation in support of ground forces. The 1942 maneuvers, participated in by a number of armored divisions, were designed to emphasize the coöperation of combat aviation and ground troops and to test the principles set forth in this field manual.

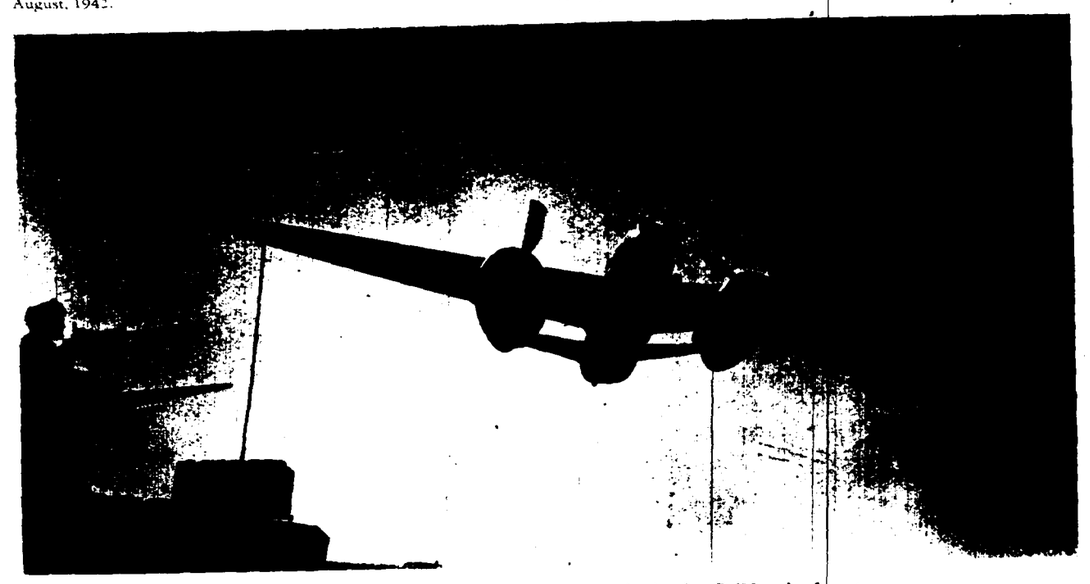
A recent article[1] in The CAVALRY JOURNAL describes the organization of the Air Support Command and the methods of employing aviation in support of ground troops. This article, based upon lessons gained from the 1942 maneuvers, will be devoted to pointing out how the Armored Force—Air Team can obtain the most effective support from its air components.

METHODS OF OBTAINING AIR SUPPORT

First and most important of all is the method of obtaining air support. It can be obtained either upon call (the request method), by having prearranged missions, or by a combination of both. It can also be provided by means of the mission type order.

Field Manual 31-35 is devoted primarily to the procedure for initiating requests through air support parties and air support controls, from which one is led to believe that the majority of targets for combat aviation will be selected by the ground units. However, except in the case of a well defined target that is easily discernible from the air, a ground observer cannot see it as viewed from above. In general, also, where ground units observe a target, it can be brought under artillery fire and is not a suitable target for combat aviation. Where a target is located beyond the range of artillery by ground reconnaissance elements, if it is a suitable target for aviation, it should also be picked up by observation aviation. Let us assume, however, that it has not been picked up by air observation. Then, unless observation is directed through the air-ground net to locate the target and is able to find it, combat aviation is not likely to be able to locate and attack this target. Battle experience, as well as maneuvers, bear out the fact that intelli-

[1] "Air Support of Ground Troops," CAVALRY JOURNAL for July-August, 1942.



Light bombers in a dawn attack against tanks in the California desert.

Flight of A-20's assisting advance of an armored unit held up in the woods beyond by antitank weapons in foreground.

gence for air support controls will come more from air than from ground reconnaissance.

Based on the above premises, it is believed that in a majority of cases the objectives will either be secured by air reconnaissance, or will be known prior to commitment of the ground units. Consequently, if the above conclusions be true, the so-called "calling for air support by ground units" will *not* be the common practice that the field manual might possibly lead one to believe. This then brings us to the prearranged missions, which are the result of advance planning.

A study of enemy terrain indicates the important routes, defiles, areas, road and rail centers, bridges, possible crossings and similar features which observation aviation will be required to observe. Based on this study and the essential elements of information, G-2, in collaboration with the observation unit commander, or his representative, habitually makes plans in advance covering aerial reconnaissance or search of these points, routes, or areas. Similarly, G-3 (Air), based upon the estimate of the situation and in collaboration with the light bombardment unit commander, or his representative, should plan in advance for prearranged bombing missions. "Prior to an engagement, plans for the employment of artillery are prepared and definite missions are assigned each unit in as great detail as the time and known factors permit."[7] Combat aviation is nothing more than "flying" artillery and similar plans should be made for its employment. It is surprising, however, how few plans are made in advance for employing light bombardment.

To rely on either of the foregoing methods alone for obtaining air support will not produce the best results, or meet all situations. Plans, therefore, should provide for prearranged support as well as direct support on call. This practice was followed by one of our armored corps during the 1941 maneuvers. An air support plan was published as an annex to all field orders and worked remarkably well. The chief advantage lies in reducing the number of requests to the minimum, thereby eliminating the delay involved in transmitting requests.

Still another method of providing air support is available when it is not practicable to prearrange bombing missions. A mission type order to combat aviation, with some observation attached, will result in earlier air support, more economical use of aviation and, if communications fail, still will permit employment of aviation in accordance with the predetermined wishes of the supported unit commander. As an illustration of the mission type order, in one maneuver that involved the defense of a river line by a reinforced cavalry division, the supporting air commander recommended definite missions for observation and light bombardment aviation as well

[7]Field Manual [illegible], Armored Division Artillery, paragraph 5

as the priority of these missions. The division commander approved his recommendations and thus gave both observation and bombardment a job to do.

The Air Support Commands believe that in most cases they can accomplish their support missions if they are given a job to do and are then left alone to do it. Before any criticism is made of the mission type order, ground unit commanders should pause for a moment to reflect. Does not the ground commander prefer the mission type order when he is in support of other ground forces? Does he not believe that he can accomplish his mission better under a mission type order? Does he not feel that when he is tied too closely to other ground forces, his command may be frittered away on unimportant objectives? History records many instances where horse cavalry has been frittered away when improperly employed. Maneuvers have indicated that armored units may suffer the same fate. So lend a sympathetic ear to your air commander's advice and give him due credit for wanting to support you to the limit of his force's capability.

Whichever one of these methods is followed, an air support control should be located in the vicinity of the supported unit commander's headquarters. It is the ground commander's link with his combat aviation and monitors all requests. When planes are operating on prearranged missions, this control is available to divert them to other targets. When the aviation is operating under a mission type order the control remains silent—except when it is monitoring—until such time as other missions are to be directed or an unforeseen situation requires a change in mission.

Employment of Combat Aviation

Enough has been written in the appropriate field manuals and elsewhere on the types of missions, suitable objectives, and logical targets for light bombardment aviation, without going into this phase here. For the purpose of this article, it is sufficient to say that this aviation should not be frittered away on targets within reach of artillery, or other ground weapons, while "bigger game" exists at a distance. Neither can light bombardment be expected to supplant supporting artillery, which, within the limits of its range, can lay down a more effective and continuous concentration. By this it is not meant to imply that combat aviation should not be used to augment artillery over that part of the hostile front where a decision is sought. For "the most important target at a particular time will usually be that target which constitutes the most serious threat to the operations of the supported ground force."[8] And "the final decision as to priority of targets rests with the commander of the supported unit."[8]

Experience has shown that calling for support aviation through the air support control channels is not the most rapid means of bringing fire to bear on a target. If it is a transitory target, it is not to be expected that it will remain in one vicinity long enough for the request to go through and the mission to be completed. If it is an enemy force that is holding up an armored advance, no such mobile unit will wait under fire the time required for a request to go through. Either the enemy opposition will be reduced by the armored units employing fire and movement (including fire by organic weapons and supporting artillery) or the armored units will leave a holding force and take advantage of their mobility to maneuver around the enemy or to move to another position.

A question immediately arises. What about the air alert? Will it not meet these situations? The answer is

[8]Field Manual 31-35, Aviation in Support of Ground Forces, paragraph 31.

Liaison planes using a road for an advance landing field.

a qualified affirmative. Air alert, which is a status of aircraft provided for in Field Manual 31-35, will meet such situations, if this type of alert has been provided for in the air support plan. But air alert constitutes the most uneconomical use of aircraft known. Air alert requires local air superiority obtained either as a result of neutralizing the hostile aircraft or by maintaining a continuous fighter cover. It also requires large numbers of light bombers to maintain this status even for a comparatively brief period of time. Therefore, unless sufficient aircraft is available and the situation, foreseen in advance, is most critical, air alert is not practicable.

Under normal circumstances, situations such as the foregoing can best be met by flights, or squadrons, operating on a time schedule against targets of opportunity in a prescribed area. Here again proper advance planning and intelligence should indicate the areas where the enemy is most likely to be met. This method of employment, likewise, requires a large number of bombers, but is more economical than air alert. Fighter protection may or may not be required: this depends upon the general air situation.

Some observation should remain under corps control for distinct reconnaissance, but wherever corps has retained control of all the observation, the flow of intelligence to divisions has been delayed and in many cases has been too late to be of value. On the other hand, the flow of intelligence through the air support control is usually either negligible, or is too late to be of value to combat aviation. Should control of all the observation be placed under the light bombardment commander, as has been advocated by some, then it is believed that the converse would be true, combat aviation would receive enemy intelligence first and ground units would be delayed in receiving it. It is true that under whatever command the control of observation aviation is placed, all units in the air-ground net should receive information sent by radio, provided that radio silence has not been imposed and provided that radio communications work. The fact remains, however, that the present plan of employing observation with armored units works: and nothing should be done to upset it.

Combat aviation must be provided with a radio in the air-ground net in order to intercept messages from observation aviation in flight. It must likewise be provided with a lateral means of communication with the observation airdrome in order to receive enemy intelligence from that source. It may be further advisable in certain situations to attach some observation to combat aviation for the sole purpose of locating targets, a sort of "flying" air support party, and to lead combat aviation to the target.

Communications

It should be needless to point out that execution of the air plans, both for observation and combat aviation, depends upon adequate communications. With inexperienced operators both in the air and on the ground some difficulties have been had in radio communications. But if communications officers and responsible commanders get on the job these difficulties can be remedied. The air-ground net and the bomber control net must be made to work. If communications fail due to other causes, then the plans must be flexible enough to carry on air support until communications are restored.

A similar method, with the time schedule stepped up, is applicable when it is desired to make an all-out air effort, or to provide continuous close support of front line units in an attack or a withdrawal. The difficulty here lies in identifying friend from foe; while in a withdrawal the losses of friendly aircraft are terrific when opposed by active hostile aircraft. However, if the planes are available, it may stave off total defeat as the British found out in North Africa last summer.

Past maneuvers have shown that some of the most profitable targets appear in the hour preceding darkness. About this time the enemy is preparing to move up reinforcements, supplies and ammunition. Frequently, they "jump the gun" and bunch up in rear areas, or can be caught jammed up on roads leading to the front. Late afternoon observation missions will locate these targets and late bombardment missions can be directed against them. So don't use up your last available aviation before five o'clock in the afternoon. Save some for these late missions, they'll pay "big dividends."

Observation Aviation

Normally, an armored division is allotted an observation squadron. This is an important component of the Armored Force—Air Team, and best results have been obtained where the same squadron works with the same armored division. The primary mission of the observation type planes of this squadron is to provide aerial reconnaissance for the supported unit in coöperation with ground reconnaissance units. Experience has shown that an armored division requires this observation aviation in direct support, under division control, in order that the division may receive prompt information of enemy locations and movements in proximity to its front.

Conclusion

Aviation in support of armored units may include not only observation and combat aviation, but also troop carrier units that supply ground units by air and fighter support to cover the air operations. Complete coöperation between the elements of the Armored Force—Air Team is dependent, therefore, on coördination of the operations of these air units with each other as well as with the supported ground units. In addition, it is essential that commanders and staffs of armored units have a thorough understanding of the capabilities of support aviation and their method of employment in meeting a given situation. This coöperation and understanding can only be achieved through combined training, and the same units are permitted to train and fight together.

The Division Reconnaissance Troop and Squadron

By Major R. G. Fergusson*

IN this day of rapid, mobile warfare the importance of "Intelligence" units can hardly be overestimated; therefore, the functioning of the division reconnaissance troops and squadrons should be of interest to every cavalryman and, particularly, to those relatively inexperienced young officers who are finding themselves responsible for the organization and training of these specialized units. Fortunately, texts covering the general training are available at The Cavalry School, and pertinent articles have been published, such as "G-2 and Reconnaissance Troop Training," by Captain Bellah in the September-October issue of The Cavalry Journal.

The tactical training of the reconnaissance troop or squadron must stress primarily the gathering of information and the transmission of that information to the proper headquarters. All other aspects—gunnery, road movement, tactical use of vehicles, individual and unit combat, etc., are concerned with this main function.

The platoon is, of course, the main tactical unit; it is with that force that the responsibility for the success of the mission lies. It must be realized that the platoon under the tables of organization has been deliberately set up as a reconnaissance unit, containing intelligence and communication specialists who are essential to the execution of the mission at hand. The training of the platoon personnel should be pursued with this consideration in mind. For instance, it is imperative that each car commander be thoroughly familiar with his group in order to detail the important duties. In addition, he must be a skilled driver; able to operate the radio and be responsible for the maintenance of supplies and ammunition in the car.

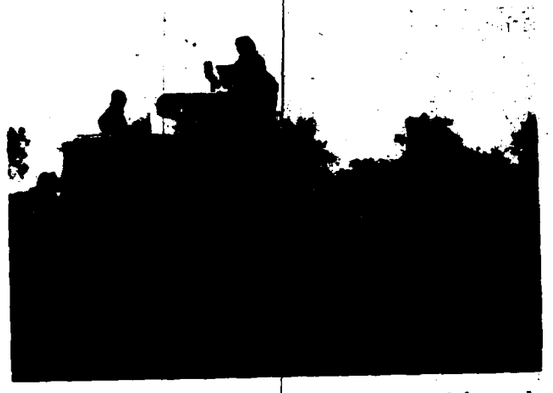
The driver must be adept in both fast and heavy going. He must be expert in stealth and the use of camouflage and be able to anticipate future moves of the unit. He is not merely a chauffeur, but is an integral part of the team—with the ability to operate all weapons. The "jeep" scouts must operate properly as a point: read a map, understand all signals, be able to determine the maximum load of bridges, inspect for and remove mines, be able to follow a ridge line properly, identify units, distinguish between 155mm and 105mm artillery, distinguish between light and medium tanks, etc.

The motorcycle "scouts" should not be used solely as road-control agents but should be included in the training of the platoon. Their tactical efficiency will depend upon their riding ability as well as the same type of knowledge required of the "jeep" scouts. The trained rider on the new shaft-driven cycle can follow the jeep over practically any terrain. This was one of the significant observations made in the desert. Rocky terrain, lava beds and medium sand can be negotiated even at temperatures of 125 degrees. Deep sand is another matter, but at the same time it becomes an obstacle for other vehicles as well.

The communication personnel require constant supervision. The ability to operate a key is not enough to make them part of the team. Too often operators develop a superior attitude and feel that they belong to a select group in possession of secrets denied to the rest of the troop. They must have as much knowledge of the situation as the other occupants of the car. By continually monitoring their nets, they are able to keep the platoon commander informed as to developments. Not merely message-center personnel, they must be able to determine the relative importance of messages, and must have thorough knowledge of every phase of the problem as it affects the platoon.

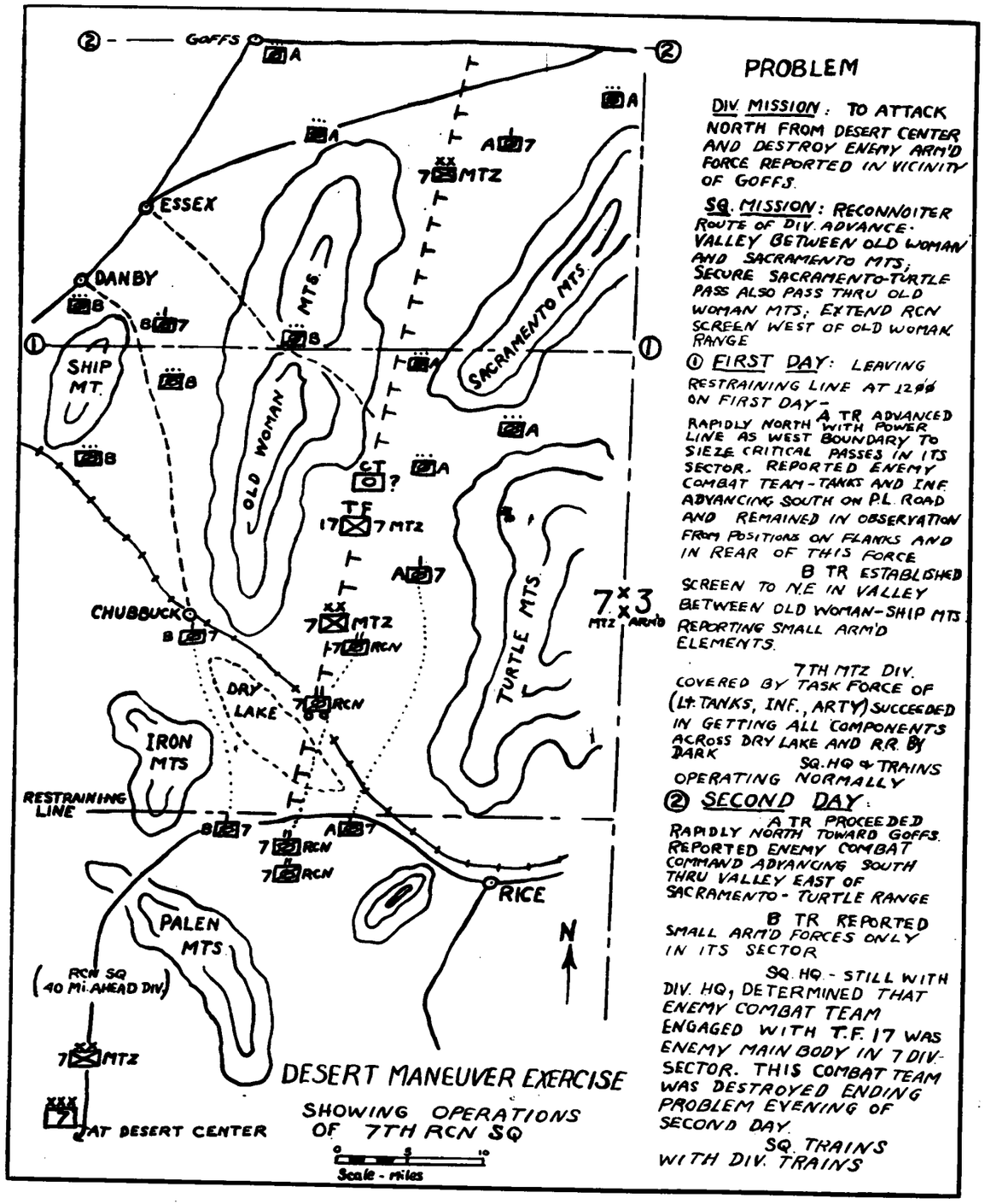
The heavy artillery of the platoon (the mortar section) should not be neglected. Besides being skilled in the operation of this weapon, the men must be able to select positions and be prepared for rapid displacement in support of a rapidly changing situation. With regard to the demolition section, actual work should be performed to perfect the technique of employing explosives.

The platoon leader needs constant attention. He has had little experience and probably has only latent leadership qualities. It is a problem to develop a cagey, ag-



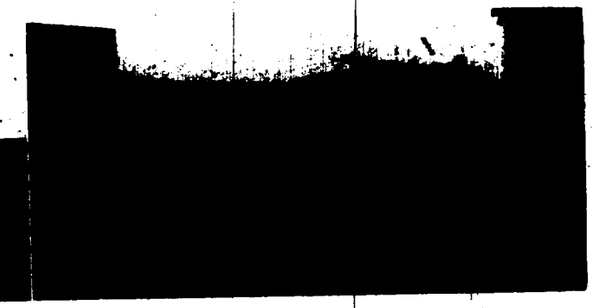
A friendly "General" tank pulls a scout car out of the sand.

*7th Reconnaissance Squadron



gressive platoon officer. The first necessity is to make him aware of the importance of the development of his sense of responsibility. His natural loyalty to his organization should be subordinated to the realization that he is working for the combat team of the division. The division commander's problem must be apparent to him, and he must understand that no action can be taken by the division until the results of reconnaissance—both

Night bivouacs required tight triangular formation in order to provide protection for sleeping men against roving tanks and jeeps.



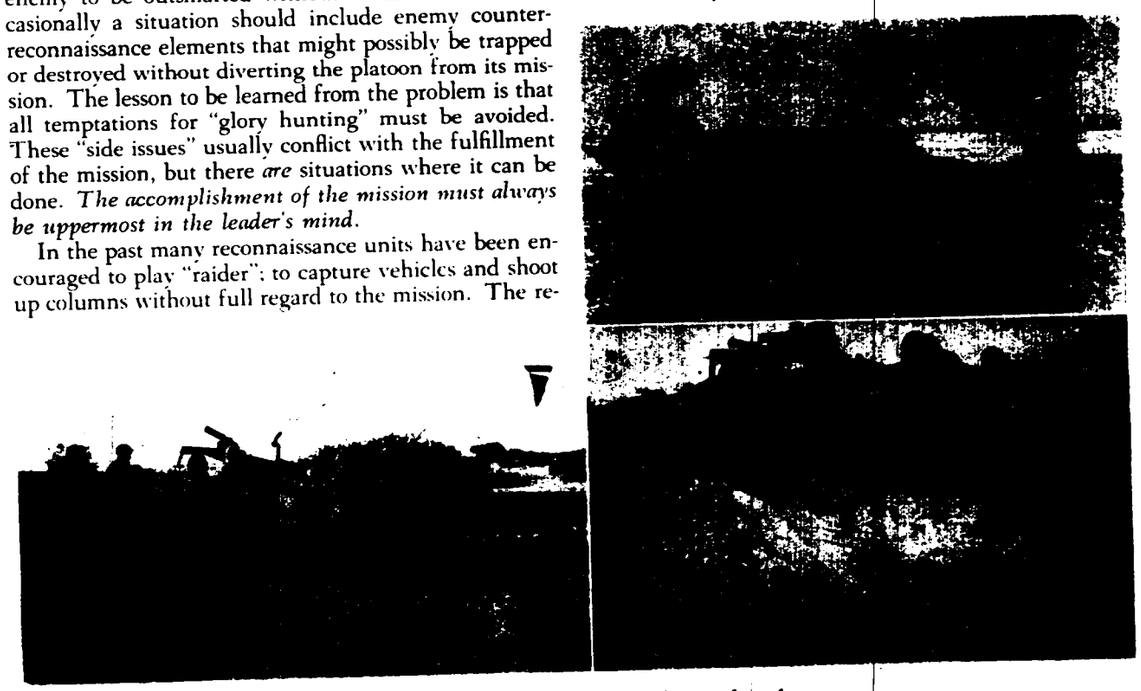
Small unit breaking bivouac after night spent within enclosure of vehicles which afforded protection from night raiders.

ground and air—are known. His is the responsibility to contact the infantry unit that is following his platoon, and to deliver to them enemy or terrain information. The platoon leader should be thoroughly grounded in the essentials of navigation, and able to operate by "dead reckoning" on any terrain.

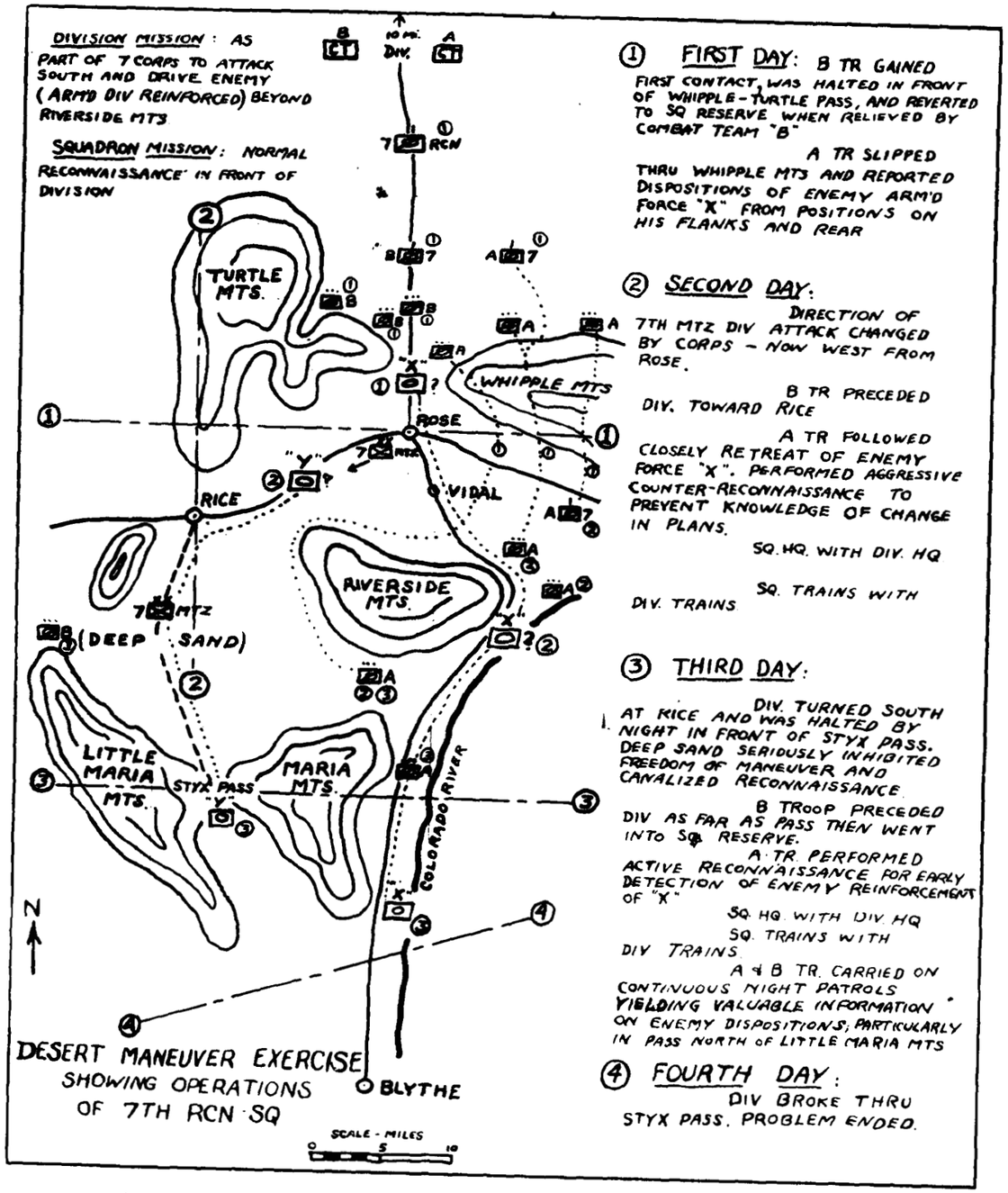
When the platoons are ready for advanced tactical training, problems can be set up which require a specific technique. Although primarily aggressive, it is well to remember that while on reconnaissance missions, the platoon must not fight except when necessary to insure the gain of needed information. The situation as presented in the problem, therefore, should permit the enemy to be outsmarted without actual combat. Occasionally a situation should include enemy counter-reconnaissance elements that might possibly be trapped or destroyed without diverting the platoon from its mission. The lesson to be learned from the problem is that all temptations for "glory hunting" must be avoided. These "side issues" usually conflict with the fulfillment of the mission, but there *are* situations where it can be done. *The accomplishment of the mission must always be uppermost in the leader's mind.*

In the past many reconnaissance units have been encouraged to play "raider"; to capture vehicles and shoot up columns without full regard to the mission. The reconnaissance troop commanders have complained that the division staff did not use their unit properly—in fact, considered it to be a combat "tank" outfit. However, if on the security missions, the temptation to "play" had been avoided, and reconnaissance conducted with a continuous flow of information, the division staff would have realized his value as an "Intelligence" unit and suitable missions would have resulted in future tactical problems that involve the reconnaissance troop.

Despite the necessary emphasis on "pure" reconnaissance, the troop will often have security missions that will require aggressive tactics, such as protecting a flank, raiding supply points or acting as a rear guard. The active security and combat missions may well be as



Deep sand sometimes proves to be an obstacle.



DESERT MANEUVER EXERCISE SHOWING OPERATIONS OF 7TH RCN SQ

numerous as the actual reconnaissance problems. The Tables of Organization and Tables of Basic Allowances have set up the unit for reconnaissance and prepared it for "slashing" and not for sustained tactics; but the armored vehicles and the heavy fire power are eyed avidly by the division staffs for use on combat missions. The troop commander, however, should be prepared to undertake any assigned task with enthusiasm and should set up his organization in the best manner to accomplish the assignment.

Often it is possible to organize a heavily armed task force that will satisfy G-3 and yet keep enough force

for proper reconnaissance. For example, in the recent desert maneuvers the motorized division was occupying a semicircular ring of hills protecting a bridgehead. The enemy was a reinforced armored division. The reconnaissance squadron was given the mission of delaying and harassing the enemy as well as garnering information regarding his strength and movements.

Since the enemy was advancing, the platoons were not to be required to fight for their information, but could elude the counterreconnaissance elements in the hills. For this mission one scout car was taken from each. These "skeleton" platoons then operated on a front of 120 miles and kept close watch on all corridors and passes. For the harassing force, two provisional troops were set up which included the antitank platoon and extra scout cars. To meet the enemy head on, these troops advanced in separate corridors. Immediately after contact, the units deployed on a wide front and pulled specially prepared drags to raise the dust. By this simulation of large forces and by aggressive delaying tactics the armored division was retarded and the infantry division was given more time in which to prepare its various positions. In this case, the harassing mission was carried out without any detriment to the reconnaissance unit which gave a correct picture of all enemy movements over a period of three days.

In a case where a combat security mission is ordered for the unit, the reconnaissance commander should study the situation and decide if a special task force could be employed and still leave at least skeleton reconnaissance platoons for normal operation. Care must be taken that the division headquarters is aware of the action and does not feel that the assigned task is being slighted.

In the summer desert maneuvers, a motorized division gave the reconnaissance squadron a real test. These maneuvers took place on the California desert, roughly in the triangle of Needles, Blythe, and Indio, where the two big obstacles, heat and terrain, are reputed to be even more difficult than on the Libyan desert. Throughout the maneuver, the motorized division staff assigned reconnaissance missions which accorded the maximum amount of training for the squadron. The cavalry preceded the division on all problems despite the fact that on some occasions, the opposing forces started with only a few miles between main units. Thus the squadron was given close and, even battle, reconnaissance missions.

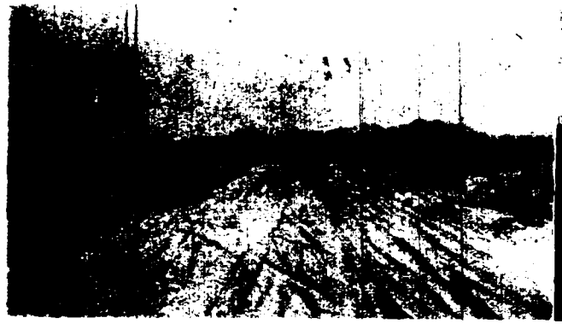
At the start of the maneuvers it was conceded that distant reconnaissance was normal, and it was thought that although the practice was valuable, the close reconnaissance missions were impractical. It soon became apparent, however, that the division staff benefited greatly by the continuous reconnaissance.

The amazing mobility of the motorized division was one of the surprises of the maneuver, and in order to use this mobility properly, the division commander required a continuous flow of reports of enemy and friendly dis-

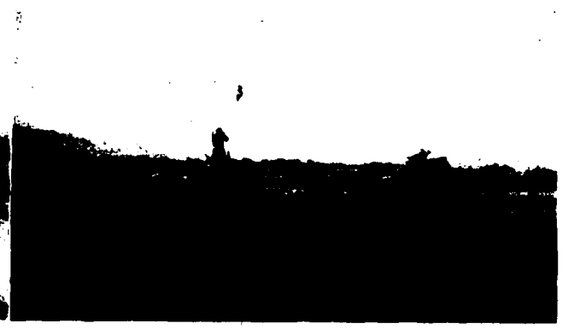
1—Class B ration. 2—Visibility unlimited. 3—Jeep scout.

positions. Thus, in situations where the "Manuals" might require the squadron to retire the troops to division reserve or to occupy a flank, the deployed platoons, with their trained observers, continued to keep the division staff informed of developments. It became usual for the squadron to precede the division on normal distant reconnaissance. As the combat team closed up, the squadron headquarters joined the division headquarters, and thus eliminated one link in communications. The platoons continued on in "close" reconnaissance until the infantry became locked in combat, at which time the platoons reverted to reserve. This was considered sound tactically, as it was of material assistance to the division throughout the maneuvers.

The key to this success was the perfect functioning of communications. During the several exercises, some of which lasted for several days, the squadron headquarters never was out of touch with a platoon.



Desert road.



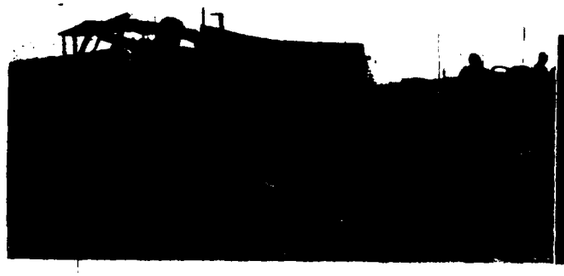
Command post.

The communication plan as now set up for reconnaissance squadrons seems to be practical in operation except for the lack of a liaison officer and liaison radio set to be attached to division headquarters. Without him, even though the squadron communications may be perfect, the most important link—that between division headquarters and reconnaissance squadron headquarters—is not under the squadron commander's control. When the squadron is in the G-2 net, vital information ranging from terrain estimates to enemy information, must wait upon the convenience of the G-2 operator and when he will accept the message. But when a liaison car with crew and a liaison officer is at division headquarters, he can keep a situation map, continually check with and advise G-2, and G-3, and keep the squadron informed of developments. This use of a liaison officer has the additional advantage of permitting the squadron to dispense with the division signal operating instructions. The use by the squadron of a separate short code and different thrust lines or grid, would not compromise the signal security of the division in the event of capture.

Supply was, as expected, an obstacle. The "Manuals" admit that the supply of such a mobile unit is a serious problem, but they offer no solution. Even when the platoons are operating behind the enemy, gas, water, and rations must somehow reach them. Of necessity, the noncombat vehicles of the troops—gas and oil, and kitchen trucks—remained in the squadron train. The S-4 had a scout car with radio that operated in the liaison net. By monitoring the net and by keeping a situation map, these supply officers were aware of the location of each troop and individual platoon. In this way the needs of the platoons could be anticipated and nightly contact could be made. Despite the fact that the units were often behind the lines these contacts were made without the loss of any supply vehicles throughout the maneuvers.

Motor maintenance was, of course, a basic problem. The terrain, ranging from deep sand to lava beds, gave all vehicles a strenuous test. Springs were broken, rubber stripped from directional tread tires—and even the cactus caused forty flat tires on one exercise. This last emergency was met by mounting an air compressor on a mechanic jeep to accompany each platoon. This unit was also a great help in permitting the deflating of tires to enable units to cross deep sand dunes. In time the drivers learned to avoid the cacti and to cut down cross-country speed which lessened the actual number of breakdowns. Strict attention to first echelon maintenance kept the maximum number of vehicles ready for service. The cavalry custom of care for transportation—whether horse or motor—before anything else, achieved the desired results.

The M3A1 scout car was able to cross all types of terrain except boulder-strewn areas. Deep sand was usually an obstacle, but if they could keep rolling, the scout cars seldom got stuck. If they stopped, the sand took



Individual cooking.

The desert usually affords ample camouflage material.

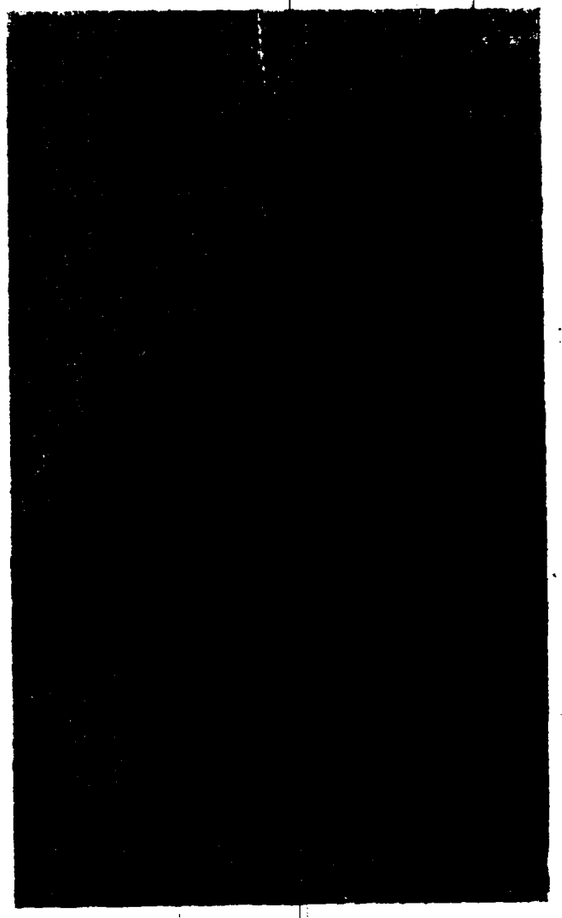
Cactus caused many flat tires.

hold and it was necessary to deflate the tires. If that measure was not successful, the services of a track vehicle to pull them out of the sand were required. All types of heavy going required the cars to be in auxiliary low range, which meant a maximum speed of five miles per hour. This low speed was a decided handicap when operating with and against track vehicles.

Water consumption was surprisingly low even in the most intense heat. It seldom amounted to more than the normal amount used. Gas consumption varied according to the type of terrain crossed. In heavy going that required four-wheel drive, low gear, the scout cars averaged five miles per gallon, while the jeeps averaged twelve miles to the gallon. (The normal rate is ten miles to the gallon for the scout car and eighteen to twenty miles per gallon for the jeep.) The scout car carried thirty gallons of gas and fifteen gallons of water in five-gallon containers, while the jeep had ten extra gallons of gas and five gallons of water.

Security problems were found to be accentuated in the desert. The lack of overhead cover meant a continuous air alert against the cactus-hopping A-20's, which were met by every active means and the two passive measures—dispersion and slit trenches.

Defensive measures against the fast moving tanks proved to be a problem for the slow scout cars. However, the desert usually provided ample camouflage material—and the far-ranging jeep patrols usually brought early warning to the platoon scout cars. Although it was necessary to disperse vehicles during daylight, at night, when in bivouac, they were placed in a close bumper-to-bumper triangular formation. This last measure permitted the men to sleep within the enclosure without fear of being crushed by roving enemy tanks and jeeps.



The air compressor mounted on a jeep was the antidote for cactus punctures.

Men and equipment had a severe test in the desert, and it is regretted that the support troop had not been activated.

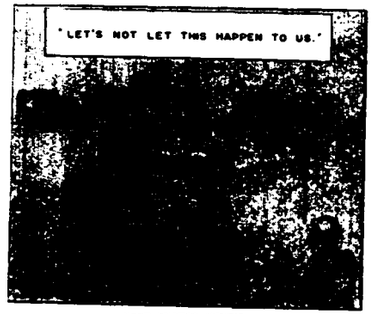
The light tanks encountered in the desert—notably the M5's— made the squadron rather envious and caused speculation as to whether that model tank would make the ideal reconnaissance vehicle despite its noise of operaton. This vehicle provides superior cross-country mobility, turning ability, bridging and hill-climbing ability, crew and equipment protection, fire power, protected all around vision, platform stability, and accelerating ability superior to the scout car. The present limited range can be increased with auxiliary fuel tanks.

In the September-October issue of The Cavalry Journal there appeared the question, "Are reconnaissance units being used on proper reconnaissance missions?" It may be stated in reply that this motorized division, for one, employs its reconnaissance squadron in the manner for which it was intended.

DO'S and DON'TS

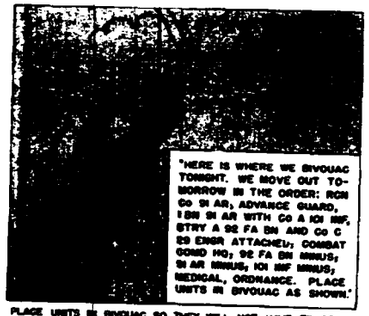
In Tactical Training

Editor's Note: The following illustrations are taken from *Tactical Training Aid*, issued by the Headquarters of The Armored Force. We commend it for its simplicity of detail and thoroughness of purpose and submit it for your careful study.

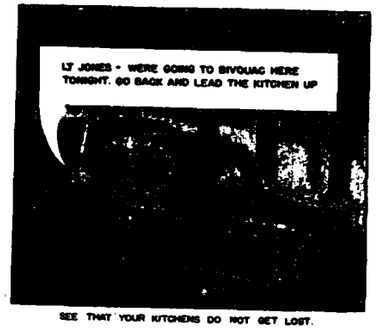


KEEP TRAFFIC MOVING.

POST GUIDES. DON'T LET YOUR COLUMN TAKE THE WRONG ROAD.

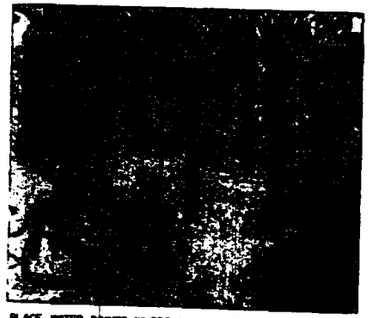


PLACE UNITS IN BIVOUAC SO THEY WILL NOT HAVE TO GO THROUGH ANOTHER UNIT'S BIVOUAC, IN FORMING COLUMN FOR NEXT DAY'S MARCH.

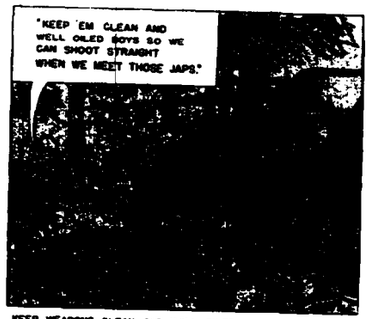


SEE THAT YOUR KITCHENS DO NOT GET LOST.

POST SECURITY AND OBSERVATION AT EACH HALT—NO MATTER HOW SHORT. DO NOT LET YOURSELF BE SURPRISED.

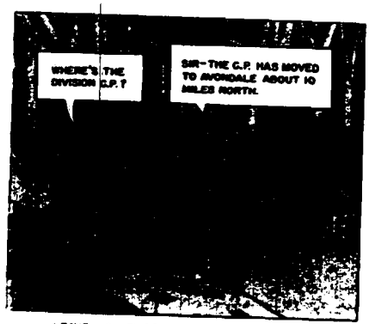


PLACE WATER POINTS WHERE CONCEALMENT FOR WATER PURIFICATION UNIT AND WAITING TRUCK IS AVAILABLE. DISPERSE VEHICLES UNDER COVER. POST GUARDS OR MP'S TO KEEP AND ENFORCE SECURITY MEASURES.

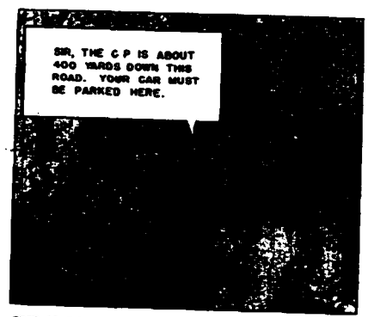


KEEP WEAPONS CLEAN AND WELL OILED. TAKE CARE OF THEM AND THEY'LL PROTECT YOU. ABUSE THEM AND YOU MAY HAVE TO FIGHT WITH YOUR HANDS, TEETH AND FEET.

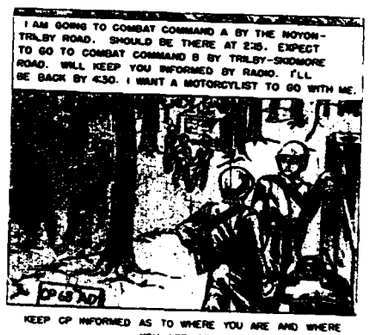
DON'T LOAD YOUR KITCHEN WITH SO MUCH IMPEDIMENTA, THAT THE COOKS ARE UNABLE TO WORK, WHILE EN ROUTE.



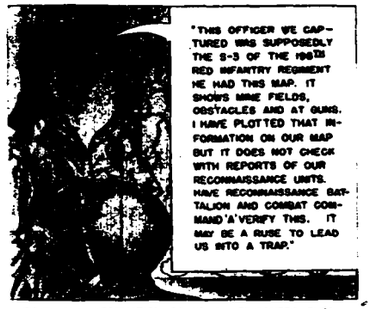
LEAVE A GUIDE AT THE OLD C P



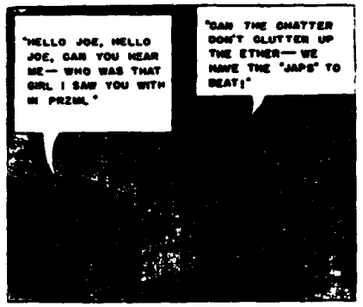
POST CP SIGN AND GUARD AT ENTRANCE OF CP PARK CARS AWAY FROM CP



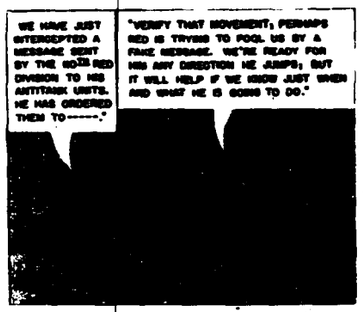
KEEP CP INFORMED AS TO WHERE YOU ARE AND WHERE YOU ARE GOING



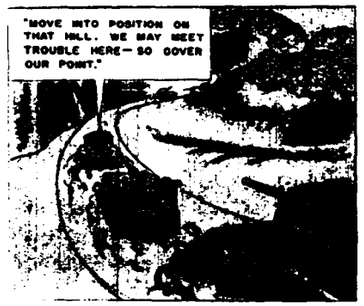
VERIFY ANY INFORMATION FOUND ON PRISONERS EVEN THOUGH IT MAY APPEAR AUTHENTIC. THE ENEMY IS FULL OF TRICKS CONVERSELY DO NOT LET YOURSELF BE CAUGHT WITH VALUABLE PAPERS.



STOP USELESS RADIO TALK.

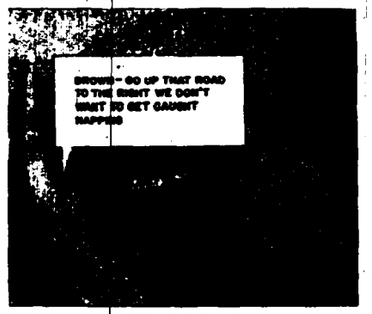


BEWARE OF ENEMY RADIO ORDERS SENT IN THE CLEAR OR IN EASILY BROKEN CODE. IT MAY BE A RUSE. CONVERSELY DO NOT SEND RADIO ORDERS IN THE CLEAR EXCEPT WHEN THE ENEMY WILL NOT HAVE TIME TO COUNTERACT THEM



COVER LEADING ECHELONS BY GOING INTO POSITION.

DO NOT LET YOUR OWN TANKS RUN OVER YOUR OWN MINES THEY WILL BE BLOWN UP TOO

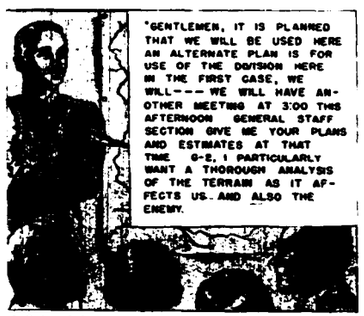


WATCH YOUR FLANKS

DON'T HESITATE TO RECONNOITER DISMOUNTED

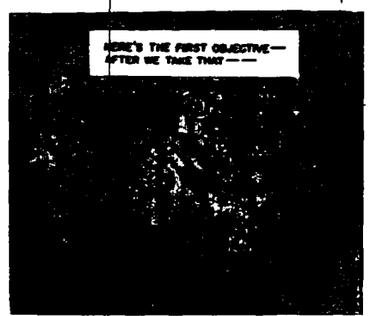
SCREW FILLER CAPS DOWN TIGHTLY ON FULL GAS DRUMS.

DON'T BLOCK THE ROAD



GIVE A CLEAR DIRECTIVE TO THE STAFF. ALWAYS THINK OF TERRAIN AND REQUIRE A CAREFUL AND CONTINUING ANALYSIS OF IT.

KEEP LOWER COMMANDERS INFORMED OF SITUATION.



PLAN YOUR ACTION CLEAR THROUGH. DO NOT STOP WITH PLANS FOR THE FIRST OBJECTIVE YOU MAY NOT REACH IT, LOWER UNITS WANT TO KNOW WHAT TO DO.

American Tanks in Action in Southern Sector of Soviet-German Front

By Z. Ostrovsky

TANKS sent by the American people are playing a considerable part in the fighting in the southern sector of the Soviet-German front. I discussed the question of the showing made by American tanks with some of the crews who manned them during the recent fighting. This was just after a hot tank battle in which about 600 tanks took part on both sides.

"American machines made an excellent showing in action," Captain Volkov said. "Take this light tank—it has splendid fighting and maneuvering qualities. In this respect it is fully as good as the light Soviet tank, which has a high rating. It is in many ways superior to the German tanks. We have had no reason, either, to complain of the speed or quality of armor of American tanks. An especially good feature of the American tanks is that they operate well on any kind of fuel. Their mechanism is simple to handle and enables men to learn to handle them very quickly.

"We are also fully satisfied with the fire-power of the American tanks. Both cannon and machine gun work smoothly and are easy to operate. What our men particularly like is the combination of cannon and machine gun.

"What else can I say? Here is a tank that has covered a thousand miles without a single breakage or repair. The only suggestion we might make is that the interior arrangement could be better adapted to specific fighting requirements. We have found it necessary to introduce certain changes in the tank's interior to safeguard the crew from fire, in case incendiary bullets lodge inside the tank."

I next spoke to an experienced tank commander, Colonel Starokoshko, a graduate of the Academy of Motorization and Mechanization, chief of staff of a large tank formation. He corroborated all the good I had heard about American tanks from Captain Volkov. He added some words about the mobility of American machines and how they stand up in action. "One very good feature," he said, "is that the motors do not overheat on long marches. The motor and treads work normally during long marches. The tanks easily ascend slopes of forty to forty-five degrees.

"Another very important feature is the American tank's fire-power. The American tank gun is very accurate in its firing. It would be an added advantage, however, if the shells were heavier. American tanks, due to the proper finish of the parts, do not make much noise, which is a great advantage in surprise attacks."

Colonel Starokoshko finished with this remark, "I'd like to say bluntly, as a soldier—these tanks would be a lot better if we had more of them. Our men have golden hands. They know how to take good care of a good machine and to get the maximum effect from it in fighting. But at this juncture the important thing for us is not only quality but quantity. We haven't got enough tanks."

U. S.-built half-tracks haul Red artillery over a muddy roadway.

Some Notes on Training*

THE object of training is to fit each Officer, N.C.O., and man for the tasks he will have to perform in war and to build up efficient teams (units) to work in harmony and coöperation with each other on the battlefield.

The complexity of the military machine has increased with the years. Compare the tasks of the company commander of old with the present-day one. Control is much more difficult in modern war than formerly, because of this complexity and because the pace is hotter.

Control, both in training and in the field must be decentralized for four reasons:—

(1) The battalion commander could not personally train and back each man.
(2) Because each commander has to lead his men in action, he should learn to lead and practice leading them in training.
(3) Because the degrees of training required and tasks to be performed will vary with the varying size of unit.
(4) Responsibility is taught through training.

Method

Method is required in planning training. It must be thought out. Each commander is charged with the responsibility of planning the training his unit requires.

What training is required:

(1) The individual training of leaders.
(2) The individual training of men.
(3) Collective training of units.

The battalion commander is responsible for:—

(1) Individual training of his officers (staff and others).
(2) Seeing that the company commanders and attached unit commanders train their officers.
(3) Seeing that the training of the N.C.O.'s and men is proceeding on the correct lines.
(4) Training the battalion to fight as a unit.

The company commander is responsible:

(1) For training his platoon commanders.
(2) For seeing that the platoon commanders train their N.C.O.'s.
(3) For seeing that the training of N.C.O.'s and men is proceeding on the right lines.
(4) For training his company to fight as a unit.

The platoon commander is responsible:

(1) For the training of his N.C.O.'s.
(2) For directing the training of the men.
(3) For supervising and directing the training of the sections.
(4) For training his platoon to fight as a unit.

The section commander is responsible for:—

(1) The individual training of men in the use of their weapons; in scouting, in the use of ground, in fire and movement, etc.
(2) Training the section to operate in combination with the other sections in the platoon, both rifle and L.A.

Staff officers are responsible for training their sections, and commanders of attached units for training their officers, N.C.O.'s and men.

There is, therefore, a descending and ascending scale of responsibility from the battalion commander down to the section commander and the men, and from the section commander upwards.

Each officer is responsible for improving and keeping up-to-date his own training, by private study. It is a ceaseless study.

No one must be relieved of his responsibility for training. It is futile to blame subordinates for not being able to train their units if they have not been shown how. Only a commander who has been found, after training, to be unfit to train his subordinates should be relieved.

Inspection and Supervision of Training

Supervision of training is essential. Just as an order given is not an order carried out, so is the programme of training itself useless unless its execution is supervised.

Supervision is not merely looking at the training being done. It is a *study* of how it is being done; of what results it is producing; of how it can be done better and in the shortest possible time. We have not time to waste, and no place for boredom.

The men have a right to the best possible training we can give them; and the nation, to the best trained army we can produce. It is our responsibility to see that they get it. Battle is the test of training. We will get only the results in battle which our training merits. If we cannot be as well-equipped as our enemy, we can be as well, if not better, trained in the use of the weapons we have.

Inspection

Inspection must be planned—decide beforehand what you are going to examine.

Previous knowledge of the syllabus, amount of training already done, and of the programme to be inspected, is necessary.

It will usually be possible to examine the programme beforehand.

Inspection must be methodical; do not try to inspect four or five units during a period of one hour.

*Courtesy *An Cosantóir*, Eire

Points on which to inspect:

Records—T.O.E.T. and training records will give an indication of the general standard.

Programme—Is there any deviation from, and why? Is each instructor in possession of a copy?

Location—Is it suitable?

Kit—Is the necessary kit at hand?

Instructor—Ability to instruct, knowledge, manner.

Class—Length of service, standard.

Subject—What does the class know about it already; is it entirely new; is it revision; is it boring repetition?

Time—Is too much time allowed for the subject?

Method of Teaching—Does the instructor take into account the previous knowledge of the class, does he talk too much instead of exercising the class; is the instruction practical and based on reality; are the men made to take an active interest; are charts and diagrams used when necessary; if the instruction is on tactics, are the lessons of musketry and marksmanship put into effect; are men encouraged to take part in discussions by means of intelligent questions; is full use made of the sandtable?

Progress—Get the class to demonstrate what they are learning or have learned about the subject.

Supervision—Is this being properly carried out by platoon commanders?

Officers must check on their acquaintance with programmes; with shortcomings and progress of their men; with T.Rs. and military literature.

Where possible, faults should be pointed out and remedied on the spot; in all cases, a discussion should follow the inspection at which all the points noted by the inspecting officer should be raised.

On completion of the inspection, the inspecting officer should draw up his report and set out faults and remedial action, together with any general suggestions he has to make. A copy of this report should go to the commanding officer of the unit concerned for necessary action.

Without close supervision there can be no progress. Battalion commanders supervise by regular inspections; company and platoon commanders, particularly the latter, by keeping in close and continuous touch with the training of their units, by directing and improving their N.C.O. instructors and by instructing themselves.

In order to supervise properly, the platoon commander must have a thorough knowledge of all subjects in the training syllabus and of instructional methods.

Proper supervision will enable him to determine the instructional ability of his N.C.O.'s and the standard of training of each man.

★ ★ ★ ★

"The four freedoms of common humanity are as much elements of man's needs as air and sunlight, bread and salt. Deprive him of all these freedoms and he dies—deprive him of a part of them and a part of him withers. Give them to him in full and abundant measure and he will cross the threshold of a new age, the greatest age of man.

"These freedoms are the rights of men of every creed and every race, wherever they live. This is their heritage, long withheld. We of the United Nations have the power and the men and the will at last to assure man's heritage.

"The belief in the four freedoms of common humanity—the belief in man, created free, in the image of God—is the crucial difference between ourselves and the enemies we face today. In it lies the absolute unity of our alliance, opposed to the oneness of the evil we hate. Here is our strength, the source and promise of victory."—FRANKLIN D. ROOSEVELT.

91st Division Stakes

THE 91st Division Stakes was a grueling test of the physical capabilities of ninety-six officers and men that put a finishing touch to Camp White's physical conditioning program. To the contestants it was a good workout; to the division commander, Major General Charles H. Gerhardt, it was proof that the training cadre of the division was ready for filler replacements.

Participants were selected on a basis of their scores in the Division Decathlon which had previously tested their abilities in such elements as shooting pistol and rifle, overcoming obstacle courses, throwing grenades, and swimming the camp's treacherous Rogue River with pack and rifle.

Carrying combat pack and pistol, the entrants sprinted 150 yards to the pistol range, fired pistol and rifle (the latter at 300 yards), hurdled two obstacle courses, clambered through a maze of trenches, and ended up fording the swirling currents of the Rogue. The entire course was eight and one-half miles.

The winner of the Stakes and a set of four engraved goblets for first prize was Second Lieutenant F. F. Lash, who ran the course in two hours, ten minutes, and dropped but three points (these with ten rounds with the rifle at 300 yards). Lash, who had previously won the Decathlon, has been in the army since December [illegible] and came to Camp White in July.

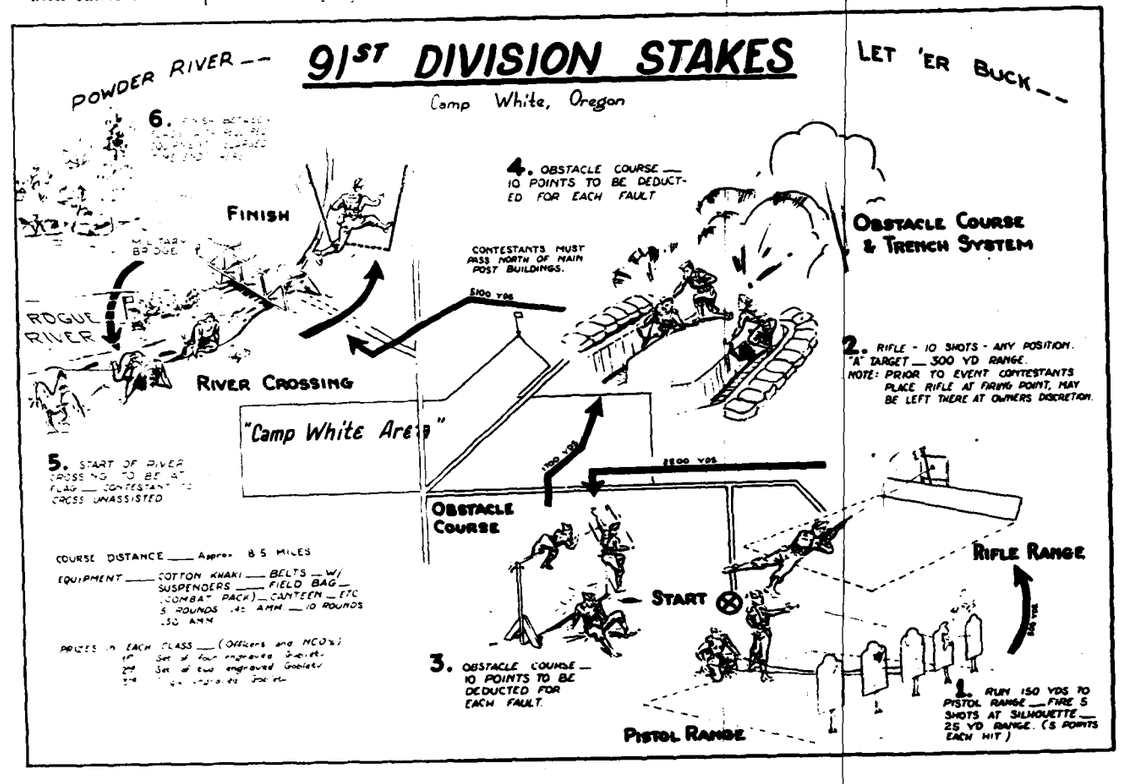
Chaplain R. D. Russell took second place with three points deducted, but his time of two hours, thirty-three minutes kept him from sharing first place. The chaplain, with nine years in the Infantry Reserve, also came to Camp White in July. He formerly served as post chaplain at Brooks Field, Texas, for two years.

Other place winners in the officers' class were the following:

Third place—Lieutenant Puntenney, Division Headquarters, with a total deduction of six. Fourth place—Lieutenant Joyce, 363d Infantry, with a deduction of six. Fifth place—Lieutenant Spence, 361st Infantry, with a deduction of seven. Sixth place—Lieutenant Morison, 916th Field Artillery, with a deduction of seven. Seventh place—Lieutenant Cordes, Division Artillery, with a deduction of eight.

First five winners in the noncommissioned officers' class were:

First place—Sergeant Bradley, 363d Infantry, with a deduction of four. Second place—Sergeant Hayes, 361st Infantry, with a deduction of seven. Third place—Staff Sergeant Hail, 362d Infantry, with a deduction of nine. Fourth place—Sergeant Noble, 361st Infantry, with a deduction of ten. Fifth place—Sergeant Hidalgo, 361st Infantry, with a deduction of eleven.



NONCOM QUIZ

Foreign Map Reading*

BEFORE you start to solve this quiz, remember there are a number of differences between our maps and those used by foreign nations. Distances are measured in meters and kilometers instead of miles, yards and feet. Conventional signs, though resembling our own, are not quite the same.

This test is based on a portion of the German map of Barwalde "in der Neumark." Shown on its margin is information pertaining to scale and date of survey and printing. The contour interval is 5 *meters* and the magnetic declination is 22 *degrees west*. No grid system is present. You will need a protractor, ruler, pencil and scratch paper in solving the quiz.

Score 10 points for each part question. A grade of 70 or above is satisfactory. Answers may be found on page 78.

TEST QUESTIONS

1. Your unit, a *mechanized reconnaissance troop*, is in bivouac at BARWALDE. You have been ordered to take your section on a reconnaissance mission from NEUES SCHUTZENHAUS crossroads (upper right) along the main east-west highway to the town of ALT BLESSIN, a distance of 9.7 kilometers to the west.

a. What is this distance, expressed in miles?

b. At 22.5 mph, how many minutes would it take your section to cover this distance on an ordinary road march?

2. The Representative Fraction of this map is 1:25,000.

a. Is this a small, intermediate, medium, or large-scale map?

b. If you were to improvise a graphic scale showing 1,000 yards, how many inches would be needed to show this scale on the margin of the map?

3. Arriving at CR 49 (1,320 meters west of NEUES SCHUTZENHAUS) you are instructed to conduct lateral reconnaissance as far south as the crossroads at GEHOFT WACHTEL (lower center of map).

a. What is the road distance, in yards, between these two crossroads?

b. What is the highest elevation, in feet, on SPARR B hill (center of map)?

4. You consider the advisability of placing a ground observer at the triangulation station (71) on SPARR B hill.

a. Can your observer see the crossroads at GEHOFT WACHTEL? (Solve by means of similar triangle or profile method.)

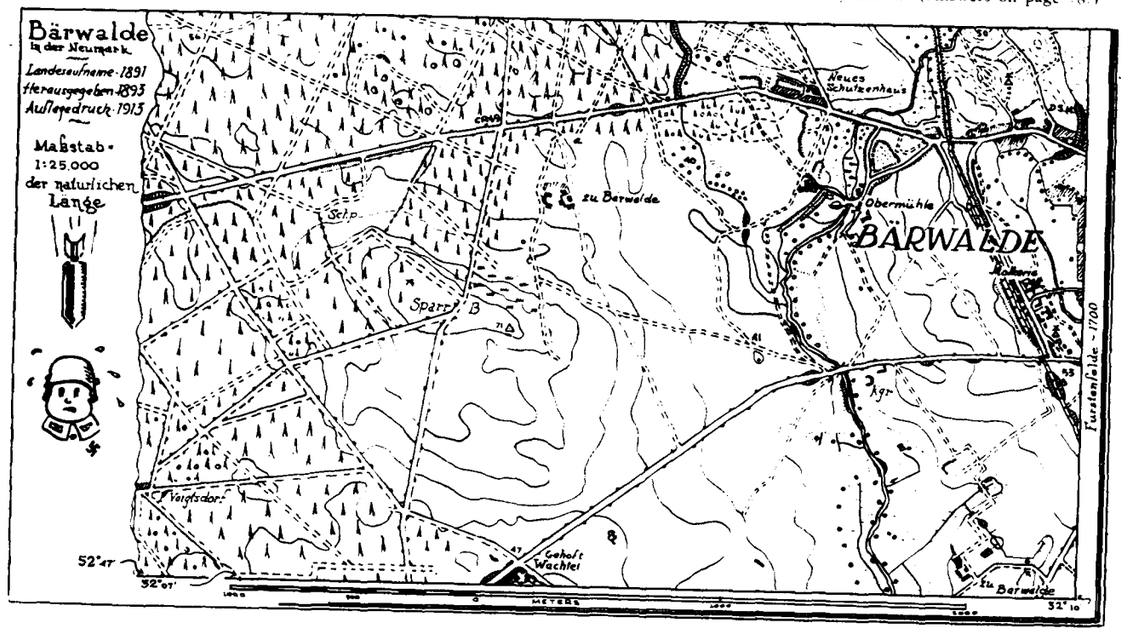
b. What is the magnetic azimuth of the line-of-sight from the triangulation station to GEHOFT WACHTEL?

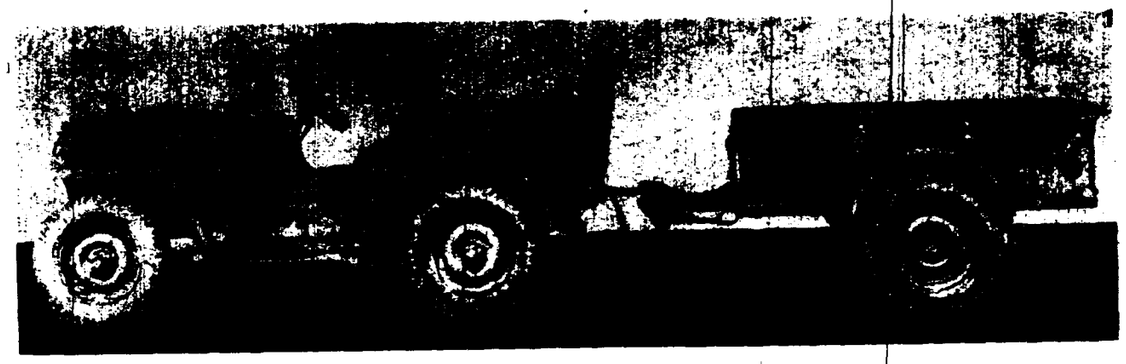
5. From GEHOFT WACHTEL your patrol returns to the ALT BLESSIN road, traveling via F VOIGTSDORF (lower left).

a. Is F VOIGTSDORF on higher or lower ground than GEHOFT WACHTEL?

b. What single U. S. military abbreviation appears on this map?

*Dept. of Tactics, The Cavalry School. (Answers on page 78.)





Horse-Bantam Cavalry

*By Brigadier General K. S. Bradford**

THERE is in existence an old photograph of General Custer's cavalry command, lined up on the plains of Kansas just prior to the start of his march of exploration to the Black Hills of South Dakota—a distance of about 800 miles. Contrary to general belief, Custer did not live off the country on this march, but carried his supplies with him, as evidenced by the presence in the photograph of what appear to be several hundred escort wagons, loaded and ready to move. The very name "escort" wagon shows that this type of transportation was designed to accompany the command. Loaded escort wagons make average daily marches of only about 15 miles, at an average rate of about 2½ miles per hour. Cavalry, dependent upon this method of supply, was therefore limited to the same slow rate.

With the introduction of the gasoline motor into army organization, the motor truck was immediately seized upon to increase the strategical or road mobility of cavalry. Supplanting the escort wagon for supply purposes, the supply truck allows the horses to exploit their mobility fully. On recent maneuvers, including those in Louisiana, horse units have experienced little difficulty in marching 40 to 50 miles per day, with no worry about their supplies being able to keep up. No one would think of returning to horse-drawn supply for cavalry.

In spite of the two to three hundred per cent increase in strategical mobility, which the motor truck permits, the strategical mobility of cavalry, as such, is practically nothing compared with that of completely motorized units. However, a way has been found to offset this discrepancy by using larger semi-trailers to portee horse units, when they must move a longer distance than a single day's march in a short time. This was also amply demonstrated in the last Louisiana maneuvers. Therefore, when semi-trailers are available, cavalry can be moved over the road at approximately the same rate as fully motorized troops.

The really distinctive characteristic of cavalry horse units, however, is their tactical, or cross-country, mobility, which, in difficult terrain, actually exceeds that of any known type of ground arm. This again was definitely demonstrated many times in the Louisiana maneuvers.

The cavalry division includes, however, in addition to horse units, a number of partially or completely motorized units, such as regimental headquarters and service troops, brigade and division headquarters troops, signal, ordnance, and division artillery headquarters troops, and reconnaissance, engineer, medical and quartermaster squadrons. These units are equipped in great part with many types of large, heavy and cumbersome vehicles, such as 2½-ton trucks and larger. These vehicles definitely jeopardize the cross-country, or battlefield, mobility of the division as a whole.

By associating together in the same divisional organization, the fastest cross-country, animate object of military value—that is, the horse—with some of the slowest cross-country types of motor vehicles, the most distinctive asset of cavalry is in a fair way to being destroyed. The horse, on the contrary, should be coupled intimately, as far as possible, with the lightest and fastest type of motor vehicle—those with the greatest degree of off-the-road mobility. This vehicle is unquestionably the ¼-ton truck, or jeep, peep or bantam, as it is variously called.

The ¼-ton truck is ideal for certain command, communication, reconnaissance and combat functions, in which it has almost as much tactical mobility as the horse and, on many missions, saves a lot of horseflesh. It can carry three men with complete equipment, arms and ammunition. The latest type of radio equipment

*1st Cavalry Division

can be installed in it. It can carry light infantry telephone wire and can transport sick and wounded. It can tow the 37mm antitank gun and, in tandem, probably the 75mm howitzer and possibly the 105mm howitzer as well.

Now that a suitable ¼-ton trailer has been designed for the ¼-ton truck, a number of vexing supply problems can also be solved. This trailer can be used for transporting such items as: small cooking stoves, cooking utensils and rations; forage for horses; gasoline and water; horse troughs and pumps; a horseshoers' forge with tools and horseshoes; ammunition and spare parts for weapons; light emergency equipment, such as an overhead cable and possibly a light bridge for the passage of men, horses and ¼-ton trucks over streams; personnel water point equipment; extra reels of telephone wire; special combat equipment, such as antitank mines, rifle grenades, decontaminating units and smoke pots; radio repair parts; vehicular tools and parts for ¼-ton trucks and trailers; and medical, veterinary and chaplain's supplies, as well as light quartermaster and ordnance supplies and field office equipment.

To digress a moment, the question naturally arises then, if the ¼-ton truck and the ¼-ton trailer have such a variety of uses, why not mount the whole cavalry division in this type of vehicle and eliminate the horse cavalry? The answer to this is simply that the small motor vehicle, in spite of its many admirable qualities, still cannot match the horse in flexibility of movement through woods, over streams, across rough country, over mountains, at night, in extremes of climate and bad weather, and when silence is necessary for surprise. This has been proven many times in recent maneuvers of the 1st Cavalry Division. Moreover, the road space occupied by the number of men in a cavalry division mounted in jeeps, would be many times that of the division mounted as at present, mostly on horses, but supported by motors. Finally, our recent experience in shortage of rubber and fuel must convince the most skeptical that it is impractical to mount the whole army of up to 10,000,000 men in motors, and that this enormous number of individuals will move, if they are to move at all, on a combination of every known type of transportation from the transport airplane to shank's mare.

To return to the original discussion, it would be perfectly simple to restrict all command, communication, reconnaissance and antitank units in the cavalry division to the ¼-ton truck with trailer. This has already been accomplished in part. It will be more difficult to do the same thing for engineer, ordnance, medical and quartermaster units, but, by breaking down loads, it can be accomplished to a much greater degree than has been done to date. The more the problem is contemplated, the more evident it becomes that many heavy vehicles are in the division only for the purpose of assisting other heavy vehicles. For instance, the wrecker truck exists only to assist other heavy trucks; and the bulldozer, to prepare ground for the passage of heavy trucks. If all of the heavy trucks were eliminated, the need for the wrecker and the bulldozer would automatically disappear.

A determined effort to replace as many as possible of the larger vehicles by smaller ones will result in the elimination of many more or less useless items of impedimenta, which are still carried into the field as luxuries for use in rest camps. It should also lead to a study looking toward the simplification of our field ration, which is unduly complicated, and to the redesign of many items of individual and organization equipment along lighter and less bulky lines.

The ¼-ton truck is so simple to operate and to maintain that it is unnecessary to have drivers especially designated as such. Men with other principal duties, such as radio operators, cooks, horeshoers, clerks, engineers, signalmen, and so on, can drive in addition to their other duties. If this principle is adopted, it will lead to a reduction in personnel and, in turn, to a reduction in the bulk of supplies necessary.

Although not based on combat experience, this discussion is not entirely a theoretical one, as it is based upon the results of a number of regimental, brigade, division, corps and army maneuvers in both the near-desert country of West Texas and the wooded, well-watered area of Louisiana. Experience in these tests has shown definitely that the cavalry division should retain its combination of horse and motorized units, but that the motorized units should be restricted, insofar as possible, to the smallest, lightest type of motor vehicle; that is, the ¼-ton truck and the ¼-ton trailer.

Solution of Noncom Quiz

1. *a.* Approximately six miles.
   b. Approximately 16 minutes.
2. *a.* Large-scale map.
   b. 1.44 inches.
3. *a.* 2,464 yards, approximately.
   b. 244 feet, approximately.
4. *a.* No. GEHOFT WACHTEL is in defilade.
   b. 198° magnetic.
5. *a.* Higher. (It lies between the 50-meter and 55-meter grid lines.)
   b. CR 49 (Crossroads. This abbreviation was added by the author, and was not a part of the original map.)

Rough and Tough!

*By 1st Lieutenant Clarence T. Lantz, Cavalry**

"TANKS and armored cars can be destroyed only by tough and determined fighting men who are masters of their weapons. Tank destroyer soldiers are taught that they must be superior soldiers. The moral qualities of aggressiveness, group spirit, and pride in an arduous and dangerous combat mission must pervade each tank destroyer unit. All ranks must possess a high sense of loyalty and confidence with regard to their comrades and leaders, and a conscious pride in their organization."

The above description, taken from the Tank Destroyer Field Manual, gives the reader a fair idea of the type of men that a tank destroyer outfit must have. But, as almost everyone already knows, the average trainee who comes from the Replacement Training Center is far from being the superman that the field manual so glibly describes.

The question then seems to be one of making the new "fillers" into the tough killers that a tank destroyer unit needs in order to accomplish its mission with minimum losses.

The 823d Tank Destroyer Battalion, under the command of Major Robert W. Rayburn, Cavalry, has been and is faced with the problem of turning Replacement Training Center material into commando-like fighting men.

A program was worked out for the battalion with a threefold objective in mind; first, to properly condition the men; second, to install an aggressive fighting spirit

* 23d Tank Destroyer Battalion.

Over the first big obstacle on the 823d "Tank Busters" super obstacle course. (Twelve feet high.)

throughout the organization; and, third, to create in the men loyalty for and confidence in their organization and leaders.

The first step in the organizational program was the establishment of a half-hour of calisthenics each morning for everyone in the battalion. This served to alert the men and start the conditioning process.

The second step in the program consisted of establishing a short but tough obstacle course, which everyone in the outfit was expected to conquer each day.

At first the battalion was satisfied to go over the course once or twice a day, but after a week or two everyone was voluntarily going through the pace two, three, and four times without stopping for even a short rest. The competitive spirit of the battalion was aroused, and the officers and men tried to outdo each other in the number of times that they could struggle through without stopping. The leaders were soon galloping around approximately ten times daily without a halt; and the average man, about five times.

Feeling that the short obstacle course had reached its peak in training and conditioning the men, Major Rayburn and Second Lieutenant E. W. McInnis, put their heads together and devised the "Get Tough" obstacle course.

This new course started out as a simple two-and-one-half-mile affair, but quickly grew to a five-mile course that is now one of the roughest and toughest in existence. It starts out innocently enough with a sprint of a few hundred yards and a few three-to-four-foot hurdles. But then comes the first big barrier—a fifteen-foot water jump—where some of the less agile get wet. Next there follows a cross-country race for about a mile, then an eight-foot dugout that forces the men into a slow trot.

After some more sprinting the contestants arrive at another barrier—the camp swimming pool—and although the early mornings are usually brisk, the men plunge right into the water and swim fully clothed, across the sixty-foot pool. Then, dripping wet from their fling at "Swimmando" tactics, the soldiers once again go into a sprint. The wet clothing hampers them a little, but it is all in a day's "fun."

The more-or-less tired men next come to a grenade course. Here they flop on their bellies and crawl vigorously for about thirty-five yards to the top of a knoll, where they hurl hand grenades at a machine-gun emplacement some fifty yards away. Because of the competitive nature of the marathon, they are forced to stay at this point until they have hit the emplacement, which usually takes only one or two tries. After destroying the

SOME OF THE OBSTACLES IN THE 823D TANK DESTROYER'S "TANK BUSTERS" COURSE

1—Over the hurdles. 2—One of the more formidable barriers is sixteen feet high. 3—Up and over without the use of hands. 4—Not so high but plenty tough to get by.

enemy position, the men push on along the bottom of a draw where the grass is thick and the terrain rugged. Through weeds, underbrush, and thickly wooded areas they sprint over the toughest ground available and come to the next obstacle in the course, which consists of a twelve-foot rope to be climbed hand-over-hand (no knots to be credited with an assist). After climbing the rope, and still perched twelve feet up, the men have to walk a log sixteen feet long and jump off the far end into a sawdust pit. Here they start the last lap of the grueling marathon, and each man usually finds just a little more energy to manage a last-minute burst of speed, and possibly capture the honor of being first across the finish line.

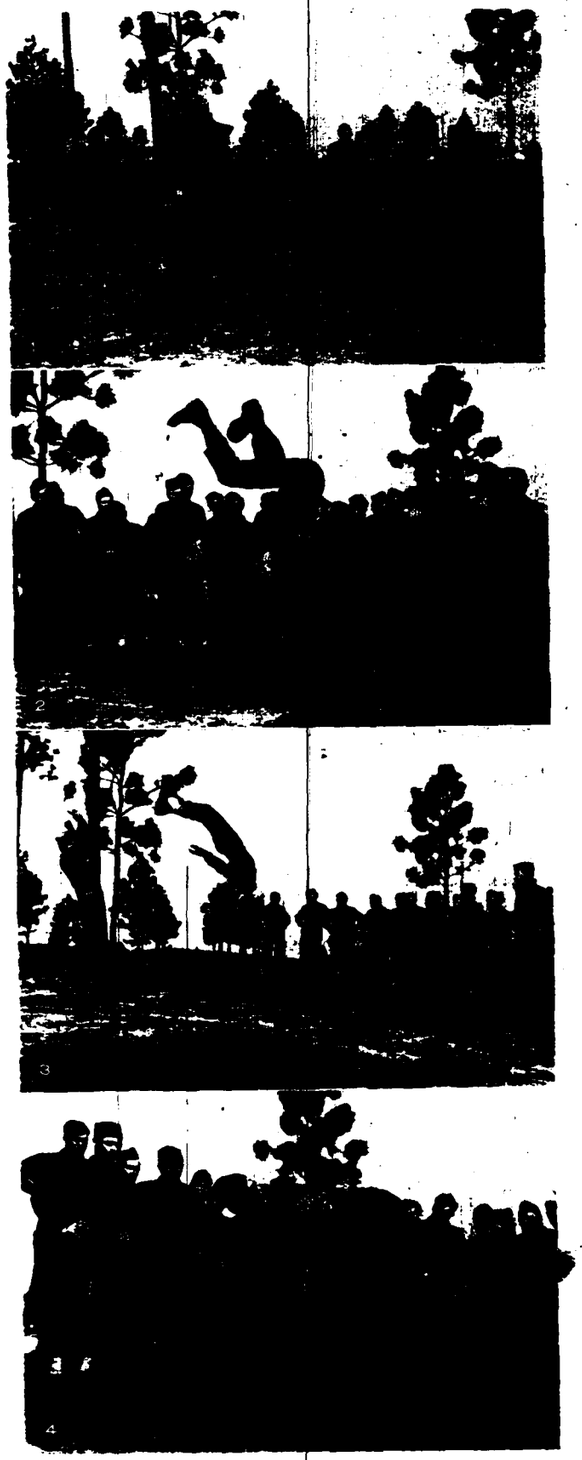
On this last stretch, at top speed, the soldiers cross a log over a twenty-foot-wide, sixteen-foot-deep trench; climb another rope—this time sixteen feet up—and race down a ladder on the other side. Then they conquer a series of minor obstacles, climb over a few walls, crawl through some barbed-wire tunnels, and arrive finally at the last major obstacle. Here they climb a fifteen-foot ladder, hand-over-hand, continue Tarzan-fashion, hand-over-hand along a twenty-foot pipe, and slide down a rope at the far end.

After a few minor barriers and a climb over a seven-foot wall, they come at last to the pot at "the end of the rainbow"—the finish line. By this time the soldiers have run steadily over a course five miles in length, and have overcome varied and difficult obstacles for approximately thirty-five minutes.

Hot coffee and a very welcome cigarette await the men at the finish line where each company then furnishes trucks to take the tired, but happy, soldiers back to a hot shower and dry clothes.

The third step in the battalion conditioning program was the establishment of hand-to-hand fighting classes. Better than just reading a book on the subject and half-heartedly trying out a few holds, the men here are taught a few blows and holds as well. The teaching program in these classes emphasizes demonstration and practice; then more and more practice until everyone can react instantly to any bare-hand combat situation. If a man doesn't react instantly, he usually finds himself on the ground before he has a chance to figure out what should have been the proper move.

The 823d Tank Destroyer Battalion furthers its program by the use of psychology. The method employed is simple but very effective. Every press release sent out by the battalion and the camp emphasizes the toughness of the outfit. The men read and hear how tough they are supposed to be, and unconsciously try to live up to their reputation. This causes them to exert themselves



"GET TOUGH" HAND-TO-HAND COMBAT CLASS

1—The strangle hold. 2—Throw 'em hard. 3—A new technique in "getting tough." 4—Disarming an enemy soldier of his knife.

still more toward getting tough, and more important yet, toward getting into fighting trim.

By using the three physical conditioning steps, plus the psychological one, the battalion has achieved remarkable results in turning raw material into the kind of superior soldiers described in the Tank Destroyer Field Manual. In fact, the competitive spirit in the battalion has made the sometimes dreaded calisthenics a privilege, for every man wants to get in better shape, and thus beat the man on the next bunk—or the company commander—around the big course each week.

The obstacle-course program has replaced the mountain activities in which the battalion participated while stationed in Colorado. There, it climbed one major peak each week. Among those scaled were Pike's Peak, Mount Rosa, and Cheyenne Mountain. In climbing Pike's Peak the Tank Destroyers were the first United States military unit to climb the peak in formation, and on the same climb they reached the highest altitude ever attained by a United States ground force unit up to that time, August, 1942.

As twenty-eight of the officers and the majority of the enlisted cadre were originally cavalrymen, the battalion has plenty of the half-as-big-and-twice-as-tough spirit. From the "CO" down to the lowliest "buck" the men claim that they belong to the roughest, toughest outfit in the whole army, and are willing to prove it.

★ ★ ★ ★

A Few Hints to New Officers

By Major John A. Mann

Know how to wear your uniform and see that you do so at all times.

Don't buy cheap uniforms, especially boots; THIS WOULD BE A GREAT MISTAKE.

Learn this and NEVER FORGET IT: THE FIRST DUTY OF A SOLDIER IS TO OBEY ORDERS. In the absence of orders or instructions, do what you think your commanding officer would do if he were present.

Pick out some officer to imitate, but be sure he is a good soldier.

Don't be afraid to express your opinion to your commanding officer, but use good judgment in doing so. Any good commanding officer will respect your opinion and listen to you within reason. BUT—When he gives you his final decision, BE SURE YOU CARRY IT OUT, REGARDLESS OF YOUR PERSONAL OPINION.

From time to time an "Officer's Efficiency Report" will be made out on you by your immediate commanding officer. You are not entitled to see it; however, if he makes an unfavorable report on you he is required to let you know about it in writing. Here are some of the things on which you are rated:

Physical activity
Physical endurance
Military bearing and neatness
Attention to duty
Coöperation
Horsemanship
Ability as an instructor
Tactical handling of troops
Initiative
Intelligence
Force
Judgment and common sense
Leadership
Horsemastership
Administrative duties
Ability to handle men

Watch your drinking. Use good judgment here.

Don't talk too much. Keep your eyes and ears open and your mouth shut!

Don't give excuses. Get the job done if you have to stay up all night.

Take care of your men, your platoon; fight for them; look to their comfort; demand their respect; be fair and still strict. Don't try to be popular. If you do your job, the popularity will take care of itself.

Be loyal to your superiors. This is most important.

Remember that before you are competent to *give* orders, you must be able to *take* them.

A man who honestly tries to do his best seldom makes a very serious mistake.

Study the regulations. Know more than your men, then teach it to them.

A final word: Don't talk too much! If you open your mouth too much you will probably put your foot in it!

To Pack Hot Food Containers

*By Captain William P. Jones, Jr.**

HOT FOOD CONTAINERS are efficient thermos-type tubs that weigh approximately forty pounds. They contain sufficient trays and compartments to keep the various components of the ration separated; the whole being covered with a thick layer of insulating material. They are excellent articles of equipment and make possible the serving of hot foods on the march or while in position. Their only drawback is the fact that they are bulky, rather heavy, and difficult to carry by hand for any great distance. This characteristic, particularly, discourages their use by organizations that do not have vehicular transportation as an integral part of their equipment.

The problem of delivering a hot noon meal to the troop arose one day last spring during maneuvers. The weather was raw, and the tactical situation required the troop to be in position at dawn and remain throughout the entire day. The sector assigned to the regiment was large, and while a part of the troop was in reserve in the vicinity of the troop kitchen, more than half of it was on outpost duty.

The first sergeant, supply sergeant, and mess sergeant were called into consultation. A Phillips pack saddle was placed on a wooden dummy horse and various slings and lashes were tried with small success. Several experiments were made, but none of them proved satisfactory. The containers, being round, would not ride on the nearly flat surface of the Phillips pack saddle without slipping or rolling.

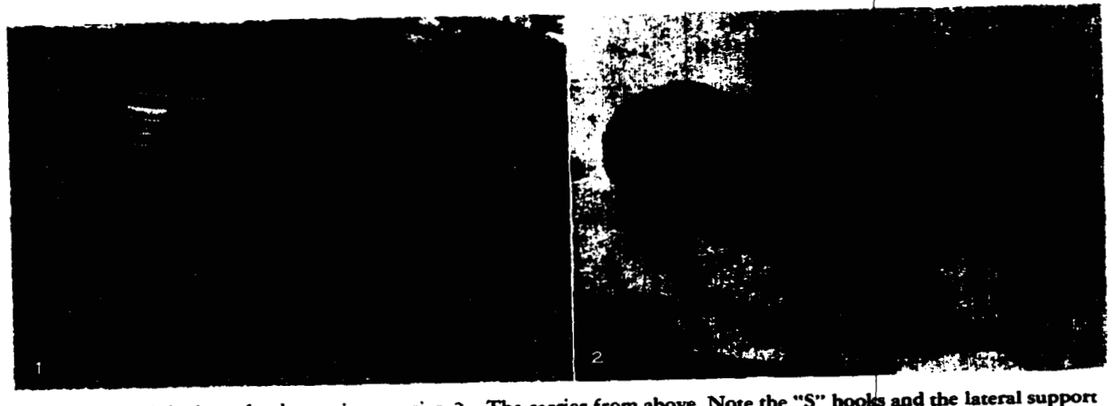
Then, at last, First Sergeant Thornton Taylor hit on the proper combination of straps. Like many useful inventions and discoveries, the solution was simple as well as easy to improvise and use.

The hot-food-container carrier, as developed by Sergeant Taylor, consists of three straps, and an "S" hook—one unit for each container. For straps, stirrup leathers serve admirably. An adequate length has been found to be four feet, nine inches. The "S" hooks can be made by any blacksmith out of a cast shoe or a piece of wrought iron. Its overall length is six and one-half inches. An O.D. canvas cover for each container has been made to eliminate reflection.

To load the containers, one bend of the hook is placed over the hanger bar, and one handle of the container is hooked over the other bend. The three straps are passed through the outside handle; one of them going through each of the three staples at the foot of the saddle. As shown in the photograph, the lateral straps pass around the container and prevent forward and backward motion, while the middle strap prevents bouncing. The single "S" hook fastening the inside handle to the hanger bar has been found to give sufficient vertical support.

The load is not too great, and a good pack animal can carry the hot-food-container pack with as much ease as he can carry the mortar pack or any of the machine-gun loads. The total weight of the pack and the two containers (empty) is 127 pounds, and even if the containers were filled with the heaviest sort of food, the gross weight would be scarcely greater than that of the mortar load. In addition, it rides better than other pack loads. Even when it is carried at extended gaits, there is none of the bouncing, rolling, or rocking apparent in other pack loads.

*9th Cavalry.



1—One unit of the hoot-food-container carrier. 2—The carrier from above. Note the "S" hooks and the lateral support given by the straps. The cover was made by the troop saddler out of salvage tentage.

Check List for Military Personnel Ordered to Foreign Duty*

ALL military personnel ordered to foreign duty, before departing from their home stations, should have in their possession a check list similar to the one listed below. If the procedure outlined in the check list is followed, all military personnel arriving at their oversea destinations will have little if any trouble in getting esablished at their new stations.

b. So far as possible military personnel will be processed at their home stations before departing therefrom.

2. Check list.—*a. Administrative.*

(1) *Officer's Identification Card (W. D., A. G. O. Form No. 65-1).*—A threefold card with photograph, fingerprints, signature. Yes No

(2) *Identification tags, metal* (two), showing— Yes No
- (*a*) Full name Yes No
- (*b*) Army serial number Yes No
- (*c*) Name and address of person to be notified in case of emergency.
- (*d*) Date of tetanus inoculation. Yes No
- (*e*) Blood type. Yes No
- (*f*) Religion if desired. Yes No

(3) *Power of attorney.* Yes No
- (*a*) *General.*—For any use but cashing Government checks. Yes No
- (*b*) *Special.*—For use only in cashing Government checks. Yes No

(4) *Will.*—Officers going overseas should make a will. Yes No

(5) *Statement of service.*—If a National Guard Officer or Reserve officer. Yes No

(8) *Passport.*—If passport is required do you have one? Yes No

(9) *Visas.*—If passport is issued, has it been visaed for all countries in transit? Yes No

(10) *Passport photographs.*—Seven extra copies. Yes No

(11) *Information booklets.*—Have you been provided with information booklet on the country to which you are going? Yes No

(12) *W. D., A. G. O. Form No. 41.*—(Designation or Change in Address of beneficiary.) Yes No

(13) *W. D., A. G. O. Form No. 43.*—(Emergency addressee and Personal Property Card.) Yes No

(14) *APO number.*—Do you have your APO number? Yes No

(15) *Clothing.*—Is your uniform complete? Yes No

(16) *Field equipment.*—Has complete field equipment been issued to you by the quartermaster? Yes No

(17) *Air priority.*—If traveling by air has a priority been arranged for you? Yes No

b. Financial.

(1) *Allotments.*—Have you made allotments of pay to cover any of the following: Yes No
- (*a*) Self. Yes No
- (*b*) Dependents. Yes No
- (*c*) Commercial insurance. Yes No
- (*d*) National Service Life Insurance. Yes No
- (*e*) War Risk Insurance. Yes No

(2) *Application for pay reservation for War Bonds.* Yes No

(3) *Uniform allowance.*—Are you eligible? If so, do you have copies of statement of service and of original active duty orders? Yes No

(4) *Mileage allowance.*—Are you entitled to mileage from last station? If travel was performed by transportation request, you must have two copies of W. D., T. C. (Q. M. C.) Form No. 207 (Transportation Certificate for Passenger Travel). Yes No

(5) *Per diem.*—Are you traveling on a per diem? Yes No

(6) *Rental certificate.*—Showing nonassignment or termination of quarters at last station. Yes No

(7) *Pay data card.*—Showing pay and allowances. Is it up to date, showing all deductions? Yes No

c. *Medical.*

(1) *Immunization Register (W. D., M. D. form No. 81).*
- (*a*) *Required:*
  - *1.* Smallpox, one vaccination. Yes No
  - 2. Typhoid paratyphoid, three injections, one-week intervals. Yes No
  - 3. Tetanus, three injections, 3-week intervals. Yes No
- (*b*) *When ordered:*
  - *1.* Yellow fever, one injection. Yes No
  - 2. Cholera, three injections, one-week intervals. Yes No
  - 3. Typhus, three injections, one-week intervals. Yes No

(2) *Blood type.*—Blood type should be shown on register and identification tags. Yes No

(3) *Dental attention.*—All teeth should be checked for cavities and taken care of before departure. Yes No

(4) *Glasses.*—If glasses are worn, an extra pair should be carried. Yes No

(5) *Physical inspection.*
- (*a*) At home station. Yes No
- (*b*) At Port of Embarkation. Yes No

Physical inspection to be made at port of embarkation if forty-eight hours have elapsed since physical examination at home station.

2. Military personnel ordered into Washington, D. C., prior to their departure for an oversea station will contact the A. G. O. Travel Bureau and have the status of their processing checked. If processing has not been completed the A. G. O. Travel Bureau will render the necessary assistance in completing same.

3. It is proposed to set up in the near future additional travel bureaus at key points in the United States. Upon organization the location of these additional bureaus will be published. Thereafter military personnel going overseas will contact the travel bureau nearest their point of departure from the United States.

*See W. D. 1942 Circular 333 for full details

Cavalry and the Australian Front*

MIGHT it not be possible that General MacArthur is finding that the northern coastline of Australia, to the east and west of the Gulf of Carpentaria is a "border" that calls for cavalry, to properly patrol and defend it?

Is is not probable that much of this long coastline cannot be reached from inland by motor drawn vehicles? This in itself would preclude the rapid concentration of infantry at such points of invasion.

Is it not possible that sudden enemy action and the evading of our naval patrols, might conceivably end in the Japanese landing and establishing a mainland base on the Australian continent? They have done just this in a continuous sweep down from Japan, why not here? The very extent of the coastline lends itself to the favorable execution of such plans.

But on the other hand, undoubtedly the Australian and American command has foreseen such an eventuality. It is inconceivable that they will have failed to station troops to patrol this danger zone and guard it. Certainly they will have naval and air patrols constantly on the alert to warn of any attempted landing. Now, given that the enemy is sighted, the warning is given. Can troops be concentrated at sufficient speed to prevent a landing in force?

If the section of coast selected by the invaders is suitable for rapid movement of troops by motor from inland, also of guns; then it is probable that the warning will serve its purpose. But would the well-informed Japanese, and we must feel assured that they are so informed, land in such territory? Is it not probable, even certain, that they would choose a sector where their landing would be least hampered from a rapid concentration of coast defense? Thus they would have more time to establish themselves, free from molestation in their initial effort at establishment.

True, that if they have been sighted by air and sea patrols they will be subjected to gun and bomb attack from these arms, but if there is no serious resistance from land forces, these invaders can establish a base from which it will not be easy to dislodge them, they have done this before.

Presuming that the foregoing is logical, not a highly colored picture by some rabid pessimist, but based on precedent set by this same enemy in this same general seat of war, then, might not this be worth consideration?

Take the sectors that are inaccessible to motors, therefore also to infantry. Infantry cannot move fast enough for any distance on foot to reach a danger point before that danger has ceased to be merely a threat. The same, of course, holds true for artillery, for while infantry might arrive after a time, artillery would not be even able to reach a position at all.

Why, then, would not large units of our well-organized and equipped horse cavalry be the answer? We do not offer suggestions as to strength, merely an outline from a horseman's point of view.

Let it be supposed cavalry concentrations are made at strategically suitable locations, allowing the unit at each camp to reach out about twenty to twenty-five miles in either of the directions to be defended or patrolled. By coördination with the air force, that unit is then warned of the danger point. It instantly moves out to prepare a defensive action against the invaders. In fact, by the very nature of its sudden appearance at a presumably inaccessible point, it has converted that defense into an offensive action.

Remember, the U. S. Cavalry is trained superbly to dismount and fight on foot, the command used to be "with rifles dismount," the rapidity with which three men of each set of fours would dismount, take rifle from boot, turn reins over to the mounted man and rush into formation for action was amazing. The lead horses meanwhile being led rapidly to cover in the rear.

While this unit engages the enemy, the adjacent units are moving up to further assist in the attack, by forced march it is true, but a forced march for men and horses, over going that prohibits the use of motors is part of their training. They have done it before and can do it now.

*Reprinted from *The Chronicle*

MEN AT WAR. THE BEST WAR STORIES OF ALL TIME. Edited with an Introduction by Ernest Hemingway. Crown Publishers, New York. 1072 pp. 1942. $3.00.

This excellent anthology is a compilation of the most universal battle experiences of man since he began to record his wars and his reactions in them.

Ernest Hemingway is particularly well suited to be the compiler of this anthology. Having taken part and been wounded in the last war, he understands something of the organized violence that is war. It is his own literary forte.

There are eighty-two stories in *Men at War* ranging in length from three pages to ninety and in date from "David and Goliath" to "Midway." Most of Hemingway's selections from ancient history, significantly, are tales of expeditionary forces that faced tremendous odds and withstood severe hardships. Obviously, the parallel that the editor intends the reader to draw is that of the task which this country now faces in a global war. The relevant selections are on Cæsar's invasion of Britain, the Battle of Hastings, two stories of the Crusades, and an excerpt from Prescott's history of Cortes' conquest of Mexico.

Everyone likes to quarrel with the choice of an anthologist and to substitute his own favorites, but Hemingway's criteria—the most enduring of human values—are almost unassailable. Because his standards of truth-telling are high, it does not follow that the stories are dull or necessarily high-brow. There is action, and plenty of it, in such stories as "The Blocking of Zeebrugge," "Falling Through Space," "Air Battle," "Gallipoli," "Her Privates We," and Tolstoy's "Bagration's Rearguard Action." The longest selection is Stephen Crane's magnificent "The Red Badge of Courage," the ageless story of a boy facing the doubts of his first battle.

Hemingway says in his introduction that this book will not tell you how to die. But by providing a superbly told record of how other men have fought and died, it may help those who are about to fight to realize that they will encounter nothing worse than other men have faced.—L. B. C.

* * *

IN THE ARMY NOW. By Private Gene Gach. Dodd, Mead and Company. New York. 282 pp. $2.00.

In this book Private Gach has presented a colorful story of his life since he entered the army as a cavalry selectee. It is not merely an account of events and contacts, as such books often turn out to be. It is rather a vivid novel of life in the army as seen from the bottom up. Characters emerge and grow into real and colorful personalities. The conversation is genuine except for perhaps too much profanity.

Two features in Private Gach's book are particularly outstanding.

The single pages of impressions, apparently jotted down hurriedly and at random, that are thrown in between each of the chapters are like side remarks in a play. They add a contemplative note to the human qualities of the story.

The last chapter contains a very fine collection of "round robin" remarks that give a soldier's summary of what the army is. A few of these are quoted here:

"It's a realizing that learning things 'The Army Way' with the habit of doing things one sure step at a time will stay with you forever, giving you advantages over people who were never in the army.

"It's so much admiring the way one officer salutes, that you cross the street to salute him, and have him return your salute.

"It's surprising yourself by the amount of pride you unconsciously take in saying 'we' and 'my regiment.'"

Private Gach is with one of the horse cavalry regiments and had an article in the July-August issue of THE CAVALRY JOURNAL.

* * *

THERE GO THE SHIPS. By Robert Carse. William Morrow and Company. New York. 156 pp. $2.00.

This is the dramatic story of the merchant marine—the ships and the men who carry the cargos of war supplies to the four corners of the fighting globe.

Robert Carse is an able writer, and he tells in this book a thrilling story of his voyage as an able bodied seaman through the North Sea death trap, to Murmansk with a cargo of T.N.T.

"This is the story of how we took the ships through the submarines, the ice, the mines, the planes, and how we brought some of them home again.

"When we started out, we were just a simple bunch of guys that you'd find in any union hall or along any dock in an American port. But we had to fight for our lives, and our ships, and we had to take through to our Russian allies the planes, and tanks, the explosives, the ammunition and trucks that had been promised them. . . ."

This is another of those books that "everyone should read."

* * *

ARMY POSTS AND TOWNS (The Baedeker of the Army). By Charles J. Sullivan. Haynes Corporation. Los Angeles, California. 4th edition, 1942. 199 pp. $3.00.

The preface to the third edition of this book, published in the spring of 1942, stated, "The reason for this book is its very evident need." That this was true is evidenced by the fact that already a fourth edition has been made necessary. A brief outline of each Army Post gives the transportation facilities, population and geographical location of the Post Town, type of quarters, names of hotels and rates, schools, climate, and type of clothes needed. Most of the recently established forts, camps, and air fields are included.

Additional information covers corps areas, personnel, War Department reorganization, insignia, decorations, and pay table.

Army Posts and Towns is a well organized, valuable, and handy reference for many desks at this time.

GAS WARFARE. By Colonel Alden H. Waitt, Chemical Warfare Service. Duell, Sloan & Pearce, Inc., New York. 274 pp., Appendix and Index. $2.75.

Clearly and concisely this book describes the little known facts about chemical warfare.

Because poison gas has not yet been introduced into this war, many professional soldiers, as well as civilians, verlook its importance if, or when, it is introduced. The very fact that to date in World War II poison gas has been used only by the Japanese in China—and that more or less experimentally—indicates something of the potency of its use and the hesitancy with which it will be introduced. Its use in 1917-18 established the record for World War I that no other weapon produced as many permanent casualties with as few deaths as chemical warfare.

Gas Warfare is divided into three parts. Part One describes the properties and agents of chemical warfare, suffocating gases, blister gases, tear gases, screening smokes and incendiaries. Part Two outlines the uses of chemical weapons and their employment in battle. Part Three instructs both soldier and civilian in protection against gases and in first aid treatment of gas casualties.

This is a valuable book—easy to read and easy to understand—about a weapon that the enemy may hold in reserve to spring in his final defense.

* * *

MILITARY AND NAVAL MAPS AND GUIDES. By William W. Flexner and Gordon L. Walker. The Dryden Press. New York. 95 pp. Well illustrated. $1.00.

Dr. Flexner and Dr. Walker of the Departments of Mathematics of Cornell University and the University of Delaware, respectively, have presented in this small book a splendid introduction to the general principles of the construction and use of maps.

The five maps chosen are the Gnomonic (or Great Circle), the Mercator, the Lambert Conformal Conic with Two Standard Parallels, the Stereographic, and the American Polyconic. The subjects are treated in such a manner that they are available to students having no mathematics beyond a first course in plane trigonometry.

Separate chapters are devoted to Radio Bearings, Radio Location of Aircraft, and Aerial Mapping.

* * *

BLUEPRINT FOR VICTORY. By Homer Brett. D. Appleton-Century. New York. 204 pp. $1.75.

In *Blueprint for Victory* the author assumes the attitude of many pseudo-strategists—that he, Tom, Dick or Harry knows as much (or more) about how to win the war as do the men who have spent their lives in the military profession. He seems to think that most professional soldiers spend the biggest part of their careers "signing vouchers." In this book he offers his own suggestions for a "blueprint for victory" and concludes by saying, "The Russians deserve credit for the elimination of surplus Nazis, but nobody is killing any Japs to speak of. That is *our* business, and the American people are wondering when we are going to start running the war."

This book seems to ignore the fact that we have more than one war on more than one front at the same time.

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1719 K Street, N.W. Washington, D.C.

FOR PERMANENT VICTORY. By Captain Melvin M. Johnson, Jr. and Charles T. Haven. William Morrow & Company. 246 pp. $2.50.

This book is an analysis of this country's past wars, the one in which we are now involved, and our future course in wars as indicated by our past and present. It is an urgent plea that the United States cease its policy of letting the sword fall from the scabbard to lie rusting until its use is again imperative.

The authors point out that, like our British cousins, we have always prided ourselves on being law-abiding people: that we have established laws and law-enforcing agencies to ensure and keep the peace within our borders. Why, then, do we allow international gangsters to grow and not only destroy our much desired peace but threaten our very existence? Would it not be cheaper and easier to maintain an armed force and a nucleus of arms production that would enforce international peace?

Permanent victory must be permanent peace.

MECHANIZATION AND CULTURE. By Walter John Marx. B. Herbert Book Co., St. Louis, Mo. 225 pp. $2.50.

Although the subject matter of this book—the influence of machines upon human lives—is temporarily submerged by the war and a war-directed society, the problems presented herein are none-the-less important. The unanswered riddles of unemployment vs. labor-saving devises; destitution in the midst of plenty—have not been solved but merely interrupted and postponed by the war. The solution lies yet in the future.

Mechanization and Culture presents many problems of technocracy. Its many specific examples and authoritative references indicate painstaking research, but the reader is often impressed with a backward rather than a forward view—a restricted perspective that fails to perceive the dawn still behind the horizon.

WHAT THE CITIZEN SHOULD KNOW ABOUT CIVILIAN DEFENSE. By Walter D. Binger and Hilton H. Railey. W. W. Norton and Company, New York. 183 pp. $2.50.

In an attempt to educate our citizens in military and naval affairs and the problems of national defense (and a great portion of our civilians have kept themselves woefully uninformed) the publishers have herein added another comprehensive volume to the *Citizen Series*. The detailed descriptions of various types of bombs and how to obtain protection against them are of practical value to civilians as well as of interest to our armed forces.

One of the collaborators, a distinguished engineer, has adapted his experiences in wartime England to our own problems regarding the protection of civilian life and property against possible attack by hostile aircraft. The other author is a special writer on matters of civilian defense for the *New York Times*. Their elementary descriptions, accompanied by diagrams and illustrations, gives the reader a fundamental concept of air raids and their consequences which will forearm him for whatever may be in store.

SUBMARINE, The Story of Undersea Fighters. By Kendall Banning. Illustrated by Charles Rosner. Random House. New York. 52 pp. $1.00.

The author here presents not only accurate details but a thrilling description of the history, development, and activity of submarines. He even describes the training of submariners and life aboard their undersea craft.

Well illustrated, this compact, authoritative book is a complete coverage of the subject of submarines for the average well informed person who is interested in the implements and methods of today's war.

THE MAN WHO DARED TO CARE. By Mary Tarver Carroll. Longmans, Green and Company, 216 pp. $2.00.

This is the simple story of the life of General James Edward Oglethorpe who carved out a colony in the wilds of Georgia some two hundred years ago in order to give a "new deal" to imprisoned debtors from England.

As a student just out of Oxford, he had headed a committee for the investigation of England's *gaols*, and there he had found conditions so dastardly that men died of smallpox or slow starvation in dark dungeons because they had been unable to meet the endorsement on a note or perhaps a gambling debt. "Many people were sorry for the sufferings of the unfortunate, and many people gave of their time and means to help. But James Oglethorpe cared so deeply that he dared do something big about it. Setting the debtors free did not satisfy him. They must be helped to build their lives again."

So it was that James Oglethorpe fought for permission to found a colony of carefully chosen and worthy debtors, then in 1732 led that colony to Georgia. He spent ten years in the New World, built roads, mapped farms, and helped to shape a new country's destiny. He acquired no lands, was paid no money, and left no heirs. But he saw a nebulous dream take shape and live.

General Oglethorpe died in London in 1785, a few weeks after he paid his official visit to John Adams, the first Minister to the Court of Saint James' from the United States of America.

ARMY FOOD AND MESSING. Military Service Publishing Company, Harrisburg, Pa. Appendix and Index. 381 pp. $

This Manual needs little introduction. Formerly published under the title of *Manual of Mess Management*, it is already recognized as an authoritative reference for the army cook or baker. It is not an official publication but is rather a compilation under one cover of much valuable information on quantity feeding and of material found in the following official publications:

TM 10-405, The Army Cook.
TM 10-410, The Army Baker.
TM 10-205, Mess Management.
TM 10-210, Inspection of Subsistence Supplies.
FM 8-40, Field Sanitation.
FM 21-10, Military Sanitation and First Aid.

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No. C-3 on Cavalry Journal book list.

MODERN MILITARY DICTIONARY

By GARBER and BOND

New edition, August, 1942

Ten Thousand Technical and Slang Terms of Military Usage

A

Abatage. A piece is said to be in abatage when the wheels rest on the brake shoes. A demolition by high explosives.

Abatis. An obstacle consisting of trees felled or placed with their tops to the front, often interlaced with barbed wire. A live abatis is one consisting of saplings bent to the ground but not cut, so that the leaves do not wither.

Abnormal Shot. A shot whose point of impact is more than six probable errors from the center of impact.

About Face. A facing to the rear in the School of the Soldier, executed by turning to the right.

Abreast. Said of a line of men or units, side by side. Equally advanced. On the same front.

Absent Without Leave. Absence from post or duty without permission from proper authority and when there is no intention of deserting. Abbreviated, A.W.O.L.

Addenda, Modern Slang

J

Jake. All right, in good order.

Jam Pots. Small bombs made of jam or other tin cans.

Java and Side Arms. Coffee with cream and sugar.

Jawbone. Credit; to buy without money; to fire a weapon over a qualification course when it does not count for record.

Jawbone Corporal or Sergeant. An acting corporal or sergeant.

Jazzing It. Diving close to the ground with an airplane.

Jeep or Jitterbug. A reconnaissance car.

The Cavalry Journal

1719 K Street, N.W. Washington, D. C.

QUARTERMASTER EMERGENCY HANDBOOK (New Revised Edition, 1942). The Quartermaster Association, Washington. 394 pp. Paper cover, 75c; leatherette, $1.00.

Following the "Forty Question and Answer Series" from the Quartermaster Review's *Storehouse of Knowledge*, this convenient, easy-to-carry volume is a ready reference for all officers and personnel on duty with the Quartermaster Corps.

Its various sections cover such subjects as War Department Technical Manuals and Subsistence Bulletins, Normal Set-up for a Post Quartermaster Office, Transportation Division, Fiscal and Finance Accounting, Military and Government Contract Law, Personnel and Company Administration, Supply, Preparation of Training Programs, Reference Data, Charts, Organization, and a Cross Index Reference for Study.

MILITARY MEDICAL MANUAL. (Fifth Edition, October, 1942). The Military Service Publishing Co., Harrisburg, Pa. 1,006 pp.

The purpose of this book is to present information of practical value to officers of the Medical Department of the Army of the United States.

An extensive index enhances the value of the three part volume. Part I outlines military matters from the medical officers' point of view. Part II deals with professional subjects peculiar to the medical officer. Part III gives detailed information of tactical employment of medical units in the field, including administration, supply and mess management, with special reference to small units. It should prove of great value as a reference book, particularly to men recently called from reserve and civilian status to serve in the Medical Corps in either a professional or administrative capacity.—E. D.

ARMY GUIDE FOR WOMEN. By Marion M. Dilts. Longmans, Green and Co., Inc., New York. 205 pp. $2.50.

This is another "guide book." It covers all of those subjects such as Uniforms and Insignia, Housekeeping, Mess, Military Courtesy, Pay and Allowances, Soldiers' Mail, etc. Designed to answer the questions that invariably confront the woman who is new in the army, it sets down innumerable figures and facts that undoubtedly one must learn. In many respects it seems to lose—or possibly fails to grasp—the total substance of army life.

As an answer manual to many necessary questions it is a ready reference.

FIELD ARTILLERY GUIDE. Prepared by the Staff of the *Field Artillery Journal*. 910 pp. $2.00.

The Field Artillery Guide is an excellent compilation of necessary working data. It is designed primarily as a field reference to be supplemented by manuals and range tables pertaining to the particular weapon with which the unit is armed.

Horse Feathers

"I'm working my way thru Officer Candidates School."

Forethought

The young Negro recruit was the victim of so many practical jokes that he doubted all men and their motives. One night while he was on guard, the figure of one of the officers loomed up in the darkness.

"Who goes dere?" he challenged.

"Major Moses," replied the officer.

The young Negro scented a joke.

"Glad to meet yuh, Moses," he said cheerfully, "advance and give de ten commandments."

Could Be

A recruit was being given an intelligence test in the army.

"What would happen if one of your ears was cut off by a bayonet?" asked the examiner.

"I couldn't hear so well."

"What would happen if your other ear was cut off?"

"I couldn't see."

"What do you mean?"

"My hat would fall down over my eyes."

More Plates, Dearie!

A colonel's wife sent a note to a captain on the post. "Colonel and Mrs. Browne request the pleasure of Captain Greene's company at dinner on May 15th," the invitation read. Shortly she received a courteous reply.

It went like this: "With the exception of five men on leave and three on sick list, Captain Greene's company will take great pleasure in accepting your invitation!"

GERMAN FLYER (at gates of Heaven): "We'd like to come in."

ST. PETER: "How many are there in your group?"

FLYER: "Forty."

ST. PETER: "Sorry, only four of you can enter."

FLYER: "Why?"

ST. PETER: "That's all Goebbels said were shot down."

Some Map!

A homely girl approached the information desk at the tourist park, and asked for a road map.

"Here you are," said the clerk.

"Well, I hope I don't go wrong," replied the girl.

"With that map," retorted the clerk, "you can't possibly."

Same To Yuh!

I-A: "You mean there's nothing wrong with me, Doc?"

MD: "Well, your left leg is swollen, but I wouldn't worry about it."

I-A: "If your left leg was swollen I wouldn't worry about it, neither."

Exempt

The colonel bumbled into the kitchen and "Attention!" screamed the mess sarge.

"What's the matter with that man sitting by the stove?" queried the colonel plaintively. "Why didn't you stand up, my man?"

"Sir," replied the cook, still sitting, "I just begun this recipe which says don't stir for twenty minutes."

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