

# THE CAVALRY JOURNAL



JANUARY-FEBRUARY, 1942



# Cavalry Combat



## BATTLE EXPERIENCE

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**Marcelino García Barragán**  
Director del Colegio Militar

Popotla, D. F.  
October 13, 1941

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Director  
Military Academy of Mexico.

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*The aim and purpose of the Association shall be to disseminate knowledge of the military art and science, to promote the professional improvement of its members, and to preserve and foster the spirit, the traditions, and the solidarity of the Cavalry of the Army of the United States.—Article III, Constitution.*

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# 7 Foreign Ho

*One can readily foresee the extensive utilization of the horse and the mule in the present conflict. Animal transportation knows no end and goes on forever. The power of an army as a striking force depends on its maneuverability and its mobility, a mobility that is not confined to favorable conditions, a mobility that must be maintained over mangled terrain, shell-torn wastes, and under the worst conditions. From time immemorial, in peace and strife, the horse and mule have given service to man. The horse and mule are a military necessity. The facts are known, concrete, and beyond the necessity of theorizing. The tank, the tractor, the truck, the airplane have complicated war's previous complexities. They have not displaced the horse any more than they have displaced the foot soldier. They have simply been added to the established requirements. All are necessary!*



German Cavalry in

- - SHOWING ORGANIZATION,



# Use Cavalry



Russia: Rearguard Action.

*A tabulation of the returned "proxy" cards for our annual meeting indicated that the majority of requests by our members was for more information about foreign horse cavalry. In compliance with these requests, The Cavalry Journal, to supplement those photos already available, purchased the photos herein presented from commercial photo agencies in New York; i.e., Acme Newspictures, Inc.; Black Star; European Picture Service; Press Association, Inc.; and Sovfoto. Usually, photographs of personnel and animals, equipment and terrain tell a graphic story better than words.*

*For ethical reasons the following text in support of the accompanying pictures, in substance, was not released for publication prior to the declaration of war against the Axis powers.*

## MOUNTS, EQUIPMENT, ETC.



# German Cavalry

TODAY, Germany maintains approximately seventeen regiments of horse cavalry, plus various other mounted combat units.

All German forces possessing great strategical mobility have been grouped under the heading of Schnellen Truppen. The Mobile Troops include: Cavalry Regiments; Tank Regiments; Motorized Infantry Regiments of the Armored Divisions; Corps Reconnaissance Regiments; Mechanized Reconnaissance Battalions; Motorcycle Battalions; Cyclist Battalions; Divisional Antitank Battalions for all types of Divisions.

Germany has two distinct types of cavalry regiment, each with a title of its own. The "Reiter" regiment approximates the American cavalry in organization and purpose. They are organized and trained to engage in combat as homogeneous units. German Cavalry Doctrine is an almost parallel of our own. (See The CAVALRY JOURNAL, Jan.-Feb., 1941.) The other type known as "Kavallerie" regiment, operates as a unit only occasionally, and are so organized as to be divisible and set up four divisional reconnaissance battalions (Abteilungen) for normal attachment by the corps to which they belong.

The Germans have a Corps Reconnaissance Regiment which is virtually a small force of all arms and

can be split up to furnish four reconnaissance squadrons, horse-and-mechanized, for attachment to the infantry divisions of the line of the Army Corps.

The Reconnaissance Battalion of the German Panzer Division includes a Cavalry Platoon. (Portéed?)

\* \* \*

Although there is no organic divisional reconnaissance unit, reconnaissance is highly developed in the German Division. Distant reconnaissance is performed by the Corps Motorized Reconnaissance Battalion either acting as a unit under corps control or with a detachment under division control. For close-in reconnaissance, the reconnaissance detachment of the Corps Cavalry Regiment is normally attached to the division.

## Corps Reconnaissance Detachment

	Officers	Enlisted Men	
Headquarters .....	3	15	
Signal Platoon (mot.)...	1	35	
Cavalry Troop .....	5	196	
Bicycle Troop .....	4	140	
TOTAL .....	13	386	399



German Reconnaissance Elements





Difficulties of German supply in Russia. Here, an obsolete light tank is being used to bring up gasoline. Deep mud in the country roads, and heavy rains, have prevented motorized columns from moving as fast as they did in France.

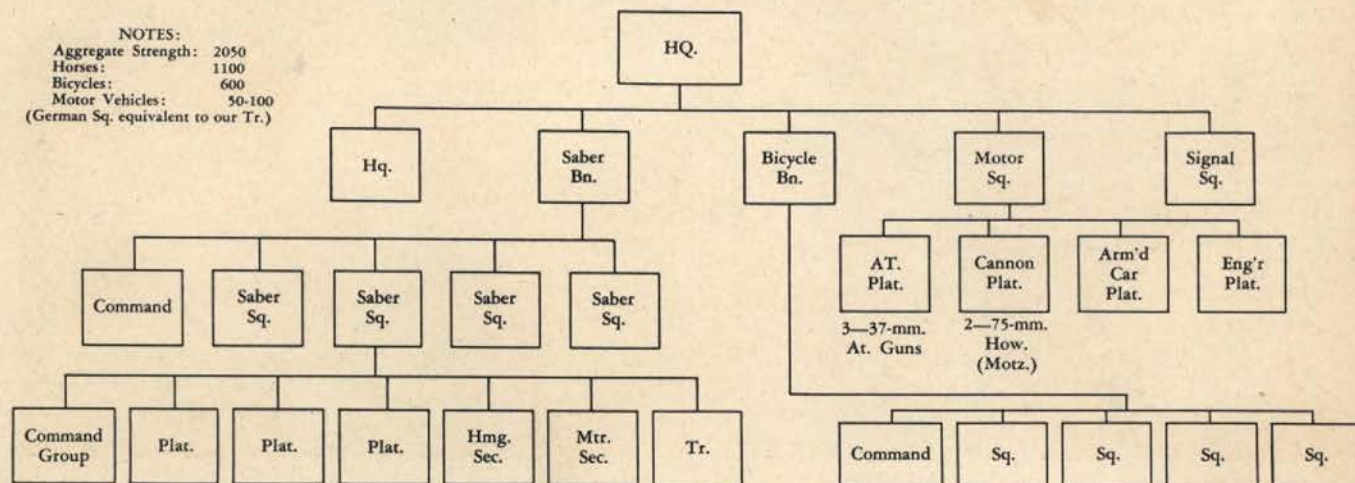
#### METHOD OF OPERATION OF PARTLY MOTORIZED RECONNAISSANCE UNITS

The partly motorized reconnaissance unit carries out tactical reconnaissance for an infantry division. The strength of mounted patrols varies from a section to a troop. The reconnaissance unit is made up of elements which move at different speeds. The aim must be, in spite of these differences, to bring the mounted and cyclist squadrons forward in such a way that on contact with the enemy unified command of the recon-

naissance unit is possible. If the situation requires it, the commander of the reconnaissance unit does not hesitate to push on with the mounted squadron if the country is impassable for motor vehicles. Separation from the wireless sets and the necessity of relying entirely on mounted orderlies and despatch riders for the transmission of messages, must be reckoned with. Mounted men, cyclists and motorcyclists can cross streams rapidly in pneumatic boats. The reconnaissance unit has two large and two small pneumatic boats

#### CAVALRY REGIMENT (GERMAN)

NOTES:  
Aggregate Strength: 2050  
Horses: 1100  
Bicycles: 600  
Motor Vehicles: 50-100  
(German Sq. equivalent to our Tr.)







## THOROUGH

in the engineer stores wagon of the ammunition and stores echelon. These boats are manned by the engineers in the mounted and cyclist squadrons.

The mounted platoon of the German Infantry Regiment is employed chiefly to furnish patrols of greater mobility than the regiment which may be sent out either for reconnaissance or for security, or both. Dur-

ing a march this platoon ordinarily furnishes a mounted point of eight men which advances from rise to rise while the remainder rides near enough to the regimental commander to be readily available for patrol or messenger service. Rates of march: on patrol, 8 km (5 miles) per hour; as messengers, 10 km per hour. Personnel: 1 officer and 29 enlisted men.







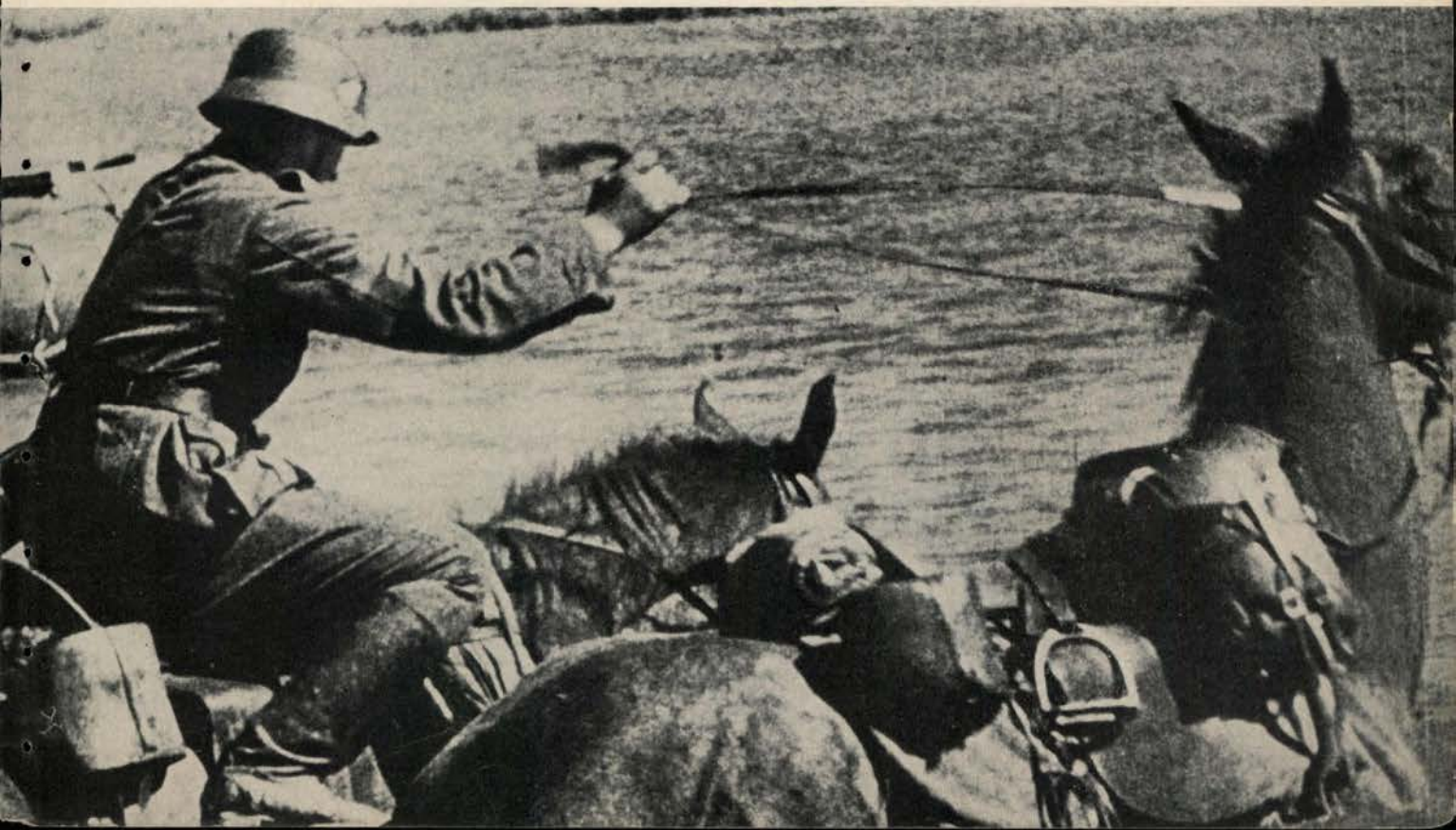
## TRAINING

### A PARALLEL

If one views the present German-Russian situation as a parallel to that of Napoleon's in 1812, one should remember that Napoleon's defeat came at a time when his cavalry was depleted to one-fourteenth of the strength of his infantry. His deficiency in light cavalry,

more than weather conditions or any other cause, contributed to his downfall.

The German Army now is weak in light cavalry and, therefore was at a disadvantage in coping with the vast number of Russian Cossack divisions and mounted guerrilla units that have harassed the German flanks and lines of communications.













# Italian Cavalry

At present the Cavalry Arm is composed of thirteen Horse Cavalry Regiments and three squadrons of light tanks, the latter having sufficient that one troop may be attached to a regiment of cavalry.

## ITALY — CAVALRY REGIMENT (War Strength (a) January, 1941)

UNITS	ANIMALS				ARMS		MEANS OF TRANSPORT				
	Officers	Enlisted men	Saddle horses	Pack animals	Machine rifles	Machine guns	Bicycles	Motor-cycles	Light tanks	Auto-mobiles	Cargo trucks
Regimental Hq & Hq Troop (2 Plat) . .	12	110	66	14			10	12			15
1st Sqdr Hq (b) . . . . .	2	10	10	1			3				
1st Troop (c)											
Hq Platoon (d) . . . . .	1	32	27				3				
1st Platoon (3 squads) (e) . . . . .	1	36	37		3						
2d Platoon . . . . .	1	36	37		3						
3d Platoon . . . . .	1	36	37		3						
Total 1st Troop . . . . .	4	140	138		9		3				
Total 2d Troop . . . . .	4	140	138		9		3				
Total 1st Squadron . . . . .	10	290	286	1	18		9				
Total 2d Squadron . . . . .	10	290	286	1	18		9				
M.G. Troop											
4 Platoons ( 3 squads each) . . . . .	5	120	120	36		12	3				
TOTAL REGIMENT . . . . .	37	810	758	52	36	12	31	12			15

### NOTES :

- (a) There are generally two squadrons to the regiment. A light tank troop was assigned to each cavalry regiment, but recently all light tank troops with cavalry regiments have been withdrawn and formed into tank squadrons with the Celeri Divisions. It is understood that when improvements to the present light tanks are made that the light tank troop will be returned to the cavalry regiment.
- (b) The Squadron may consist of two cavalry troops or one cavalry troop and one machine gun troop.
- (c) The Cavalry Troop consists of a headquarters platoon and 3 rifle platoons.
- (d) The headquarters platoon is made up of the necessary personnel for the administrative functioning of the troop, internal liaison of the troop, other necessary personnel such as horseshoer, medical personnel, student armorers, cooks and orderlies.
- (e) The Cavalry squad consists of:  
 1 machine rifle Model 30  
 12 men  
 1 corporal (squad leader); 1 gunner; 1 assistant gunner;  
 1 scout; 1 sapper; 1 ammunition carrier; 6 privates.

## ITALY, JANUARY, 1941 — ANIMAL TRANSPORTATION SUPPLY AND TRANSPORT UNITS (War Strength)

UNITS			ANIMALS			MEANS OF TRANSPORT		
	Officers	Enlisted men	Saddle horses	Pack animals	Draft animals	Bicycles	Motor tricycles	Wagons
Pack Transportation Section .....	1	120	1	100				
Wagon Section .....	1	140	1		120	1	9	60
Mountain Pack Transport Section. ....	1	120	1	100				
Mountain Pack Transportation Co. .... (3 sections)	6	410	6	312	8	1		4
Wagon & Pack Unit in Army Corps .....	1(a)		1(a)					
Wagon Section .....	1		1		124	1		62
Pack Section .....	1		1	100		1		
Total Unit .....	3	295	3	100	124	2		62
Wagon & Pack Units in Army Corps (b) .... (3 companies)	12	925	12	300	392	8		192
Wagon & Pack Units in the Div. (c) .....	16	840	16	624	20	4		10
Wagon & Pack Unit .....	1(a)		1(a)					
2 Wagon Sections .....	2		2		244	2		122
1 Pack Section .....	1		1	100		1		
Total of Unit .....	4	435	4	100	244	3		122
Army Wagon Squadron (d) .....	12	985	12		752	11		372

### NOTES :

- (a) Commanding officer of unit.
- (b) With as many units as there are divisions in the Army Corps.
- (c) With as many units as there are regiments in the division.
- (d) With as many companies as there are Army Corps in the Army;  
 Two wagon sections in each company.





Italian Cavalry marches to port of embarkation.



Italian Cavalry ready to be taken aboard a transport sailing from Naples.



# Japanese Cavalry

THE most recent confirmed information relative to Japanese cavalry is that they have twenty-five regiments—eight regiments of non-divisional cavalry, organized into brigades; and seventeen regiments of divisional cavalry. Reliable but unconfirmed information, however, indicates that Japan now has approximately sixty-one infantry divisions and that the divisional cavalry has correspondingly been increased to sixty-one divisional cavalry regiments. Moreover, recent Russian translations state that the Japanese expect to build up large forces of cavalry, heavily reinforced, to be used as independent cavalry.

The cavalry regiment, infantry division, consists of a headquarters, two squadrons, train, and probably a 2-gun section of 37-mm. rapid fire antitank guns.

The following table shows the estimated organization:

	Headquarters	1 squadron			1 squadron		Total
		Communication	Antiaircraft machine gun—antitank	Heavy machine gun	1 troop	3 troops	
Total commissioned .....	7	2	3	3	4	12	27
Total enlisted .....	8	64	66	49	99	297	484
Aggregate .....	15	66	69	52	103	309	511
Horses, riding and pack .....	13	66	76	56	110	330	541
Light Machine guns .....					4	12	12
Heavy machine guns .....				4			4
Antiaircraft machine guns .....			2				2
Carbines, cavalry .....		40	40	20	99	297	397
Sabers .....	12	66	69	52	103	309	508
Pistols .....	6	20	22	10	7	21	79
Guns, 37-mm. antitank .....			2				2
Radios .....		3					3

## NOTES:

1. Weapons of some cavalry regiments include 12 grenade dischargers.
2. Japanese are discussing the inclusion of a reconnaissance troop in the organization of the divisional cavalry regiment.

The cavalry regiment, pack division, organization differs from the cavalry regiment, infantry division, only in its field train, which consists of the following: 115 enlisted men; 79 horses, pack and riding; one day's ration and forage.

The non-divisional cavalry regiment consisting of a headquarters, 4 troops, and a machine gun troop is comprised of 788 officers and men; 884 horses, riding and pack; 680 carbines; 6 light machine guns; and 8 heavy machine guns. (This armament probably has been increased.) This type of regiment is found in the independent cavalry brigades. Independent cavalry brigades include a brigade headquarters, one battery horse or pack artillery, armored car troop and a detachment of engineers.

**Saber:** The saber is a slightly curved weapon about 36 inches over all. It is carried by the cavalry, and

officers and most noncommissioned officers of other arms.

**Lance:** The lance is used only for ceremonies and is carried only by the guards cavalry regiment.

**Carbine and bayonet:** The cavalry carbine is model 1911, caliber 6.5-mm. (0.256 inches) and differs from the infantry rifle only in having a shorter barrel. The weight is about eight pounds. A double-edged bayonet is permanently attached to the rifle, folding under the barrel when not in use. Its total length over all is 51½ inches and it is sighted to 2,000 meters (2,187.2 yards). Side arms also are carried by the cavalry.

**Light machine gun:** The cavalry uses the same model light machine gun that the infantry uses: Caliber 6.5-mm. In pack, the gun is slung horizontally with the butt towards the croup well up on the near side of the pack. The tool and spare parts box is slung below the gun. Two ammunition boxes, each containing 400 rounds, are loaded one above the other on the off side of the packsaddle. The encased, folded tripod is either packed on top of the packsaddle or suspended from the shoulder of one of the ammunition carriers. About 45 seconds are required to go into action from pack and about the same length of time is necessary to repack.

**Heavy machine gun, model 92 (1932)** Caliber 6.5-mm. (also used by infantry): The gun and certain accessories are carried on the pack in the following manner: the gun is slung horizontally, muzzle to the rear on the near side; two boxes of ammunition, each containing 15 clips of 30 rounds each (450 rounds), are loaded on each side of the packsaddle of the ammunition pack horse; spare parts and the tool box are carried below the tripod on the off side of the gun pack.

An antiaircraft adapter, about 24 inches long and weighing less than 10 pounds is inserted between the gun and bipod, when the gun is to be used against hostile aircraft. At other times one of the ammunition carriers slings it from his shoulder in a case.

Antiaircraft sights are carried in a box by the squad and attached to the gun.

**Other transport methods:** (1) The periscopic sight is carried by the squad leader. It can be attached to the gun for direct aiming, used attached to the panoramic sight, or used as a periscopic field glass when detached. It is a 6-power glass and has a 100-mil horizontal scale and a 70-mil vertical scale, both graduated into 5-mil units.

(2) The panoramic sight is carried by one of the ammunition carriers. It is equipped with range, traversing, and site scales, and leveling bubbles.

(3) The flash hider is carried in the spare parts box.

**Cavalry Packsaddle:** The packsaddle used by the Japanese cavalry is similar in basic design to the Phillips





*Top: The Cavalry embarks. Bottom: The main roads are searched for hidden land mines*





*Top:* Japanese Cavalrymen penetrate the rugged and barren mountains of Shansi Province, China. *Bottom:* Japanese Cavalry is well mounted





*Top:* Japanese Cavalry operations in the Peiping-Suiyuan Sector, China. *Bottom:* A unit of Japanese Cavalry advances on a "mopping up" operation in South China





*Top: Japanese Cavalry operations against Chinese guerrilla units are continuous. Bottom: The trails are where one finds them*

packsaddle used in our service, and consists of a steel frame to which the necessary pads and hangers are attached. Hangers are adapted to the load intended to be packed.

*Tactics:* In general, the Japanese doctrine with reference to the use of cavalry is very much like our own. The following excerpt, however, from one of their regu-

lations may be of interest: "Modern cavalry not only can defend itself successfully from motorized-mechanized units of the enemy, but it can crush them."

\* \* \*

The following extract from a report relative to general characteristics of Japanese tactics, rendered about



the time Japan began its undeclared war on China might be of value.

"To the exclusion of matters of minor technique, the general characteristics of Japanese tactics may be summarized as follows:

"The continuous offensive is the basis of Japanese tactical and spiritual training. The offensive is sought under condition of combat inferiority, which indicates a lack of appreciation of modern fire power and an over-confidence in the mystic virtue of Japanese spirit (seishin) to overcome material obstacles.

"The meeting engagement is the preferred form of offensive action. Its conduct is energetic and rapid but is apt to be uncoordinated with a piecemeal commitment of troops.

"The envelopment is the preferred type of maneuver, although frontal attacks are common in practice. As executed, most envelopments are flat and close-in with little or no interval between frontal and enveloping attacks.

"The effect of envelopment is usually sought by an advance in parallel columns with a view to overlapping one or both of the hostile flanks. The desire to stage a preconceived maneuver often leads to premature development.

"Japanese advance guards are unusually strong in infantry, particularly in approaching a meeting engagement.

"The Japanese Army does not appreciate the difficulties of the attack of a position and does not have the necessary weapons to undertake such attacks except on a narrow front.

"The Japanese artillery is deficient in number, caliber, and technical training. It is untrained in modern gunnery methods such as use of air photos, night registration, and fire of unobserved concentrations. It has no carefully thought-out plan for liaison with the infantry.

"The Japanese division is carefully trained in night attacks, believes in them, and can be expected to execute them frequently in war.

"The Japanese division frequently sends forward an advance detachment amounting to from a third to a half of its strength to precede the main body and facilitate the mission of the division, whether this be offensive or defensive.

"The Japanese dislike the defensive. When forced to assume it, commanders retain the idea of a quick return to the offensive. They will counterattack on the slightest provocation at all echelons of command.

"A Japanese defensive position tends to lack depth. The systems of fire in front of and within the position are often imperfectly organized.

"The Japanese appreciate the importance of secrecy

and deception. No maneuver is ever attempted without including in the plan some device to deceive the enemy and conceal the true intention of the commander. (Sneak-tactics are their specialty!)

"*Weak points:* Many of the weak points of Japanese tactics noted, result from the fact that the division is under-armed by Western standards of comparison, but the Japanese are making great efforts to correct this deficiency. They are spending large sums on aviation, mechanization, and motorization. They have increased the strength of the division artillery. Division antiaircraft and antitank units are being organized. The division which started the China incident will not be the division of a future war. Increased material means will facilitate the task of Japanese tactics.

"*Fighting efficiency:* Tactics are without meaning unless studied in relation to the human agent who will apply them in battle. This report has avoided excursions into the field of Japanese military psychology and national characteristics; however, it should be read with a constant eye to the nature of the Japanese Army for which these tactics are designed. It is an army easily misjudged by the foreign officer who sees first of all its straggling columns, slovenly dress, and unmilitary bearing. Just as there is no glitter to its accouterments, there is little theoretical excellence to recommend its tactics; but it is an army which excels in durability and performance. In the same way that its infantry 'straggles' 30 miles a day and arrives at the destination on time and with surprisingly few casualties, its command and staff can be counted on to evolve plans and orders which, without being brilliant tactical combinations, are practical and workable schemes for getting a maximum performance from the Japanese soldier. Furthermore, the Japanese Army which fought with bows and arrows in 1870 is thoroughly capable of learning from its mistakes and advancing with the new developments of warfare. While its swaggering self-confidence may receive some rude jolts in a major war, it is a rugged army fired with a devotion to duty and a narrow patriotism which make it a dangerous foe on a field of its own choosing."

#### CHEMICAL WARFARE SERVICE

A modern chemical warfare research establishment exists in the vicinity of Tokyo. There are also a chemical manufacturing plant and a chemical warfare school for the training of selected officers of all arms except military police. Graduates of this school give chemical warfare training throughout the army. It is definitely known that mustard gas, lewisite, phosgene, chloracetophenone and certain of the smoke materials are being manufactured at army laboratories and arsenals. Commercial plants are known to have manufactured phosgene and to be engaged in making raw materials for the production of mustard and tear gas.



# Vast Soviet Cavalry Armies Forming

By Colonel General Gorodovikov\*



Their *esprit de corps* is magnificent. We will have more about them in subsequent issues of *The Cavalry Journal*

MOSCOW, December 22, *Pravda*: The geographical peculiarities of our country, the historical traditions of the Russian Army, in which mounted Cossack troops have always played an outstanding part, the love for the horse inherent in Cossacks, Kirghizians, Kazakhs, Kalmyks, Bashkirs and other peoples of the Soviet Union—all this shows that cavalry will always hold an important place in the Red Army.

The Germans encountered Soviet cavalry at Tula, at Moscow, at Rostov, and felt the strength of its blows.

It has been shown that the tank is not very dangerous for the cavalryman if he can handle not only a blade, but a hand grenade, mortar and automatic arms, if he can fight on foot as well as on horseback.

The best evidence of our cavalry's achievements was the award of the Guards title to a number of cavalry units.

Powerful reserve cavalry armies are being trained in the rear and are preparing for decisive engagements with the enemy. An example is the unit commanded by Surikov. Its well-fed horses and the military bearing of the riders—who handle the most up-to-date weapons as well as sidearms—produce a splendid impression.

Units of this quality are being prepared for the front with great rapidity. One, commanded by Milerov, consists of men who are ardent horse lovers. In a short time this unit had brought its horses up to the standard of a regular cavalry unit, although it started with ordinary collective farm horses and had only a few weeks' training.

In addition to reserve units, voluntary Cossack forces are also taking up arms to fight the enemy.

The heroic traditions of the First Mounted Army, formed on Stalin's initiative, are still fresh among the Cossacks, who preserve their hereditary audacity and indomitable hatred for the Germans who have dared to encroach on Soviet soil. The Cossacks of the Don, Kuban and Terek are rising for war. The collective farmers of the northern Caucasus are taking up arms.

## *Veterans of Last World War Join Cossack Squadrons*

Men who fought in previous wars and sabered not a few Germans in the war of 1914-18 are joining the ranks of the Cossack volunteer forces. They come with

\*This datum was furnished by courtesy of the Embassy of the Union of Soviet Socialist Republics, Washington, D. C.



their own horses, their Cossack uniforms and their weapons. Collective farms provide them with their finest horses.

The Cossack volunteer forces include many former Red guerrillas and many veterans of the First Mounted Army. They are splendid cavalymen, as much at home on horseback as on the ground. They receive new weapons and are taught the tactics of modern warfare and coöperation with other arms.

Every district of the Don and Kuban is training detachments for the Cossack volunteer force. They have their own local commanders and doctors, their own transport. They count in their ranks many commanders who are Civil War order bearers. This fast spreading movement shows what enormous untouched reserves Russia possesses.

\* \* \* \*

#### CRACK SOVIET MILITARY SCHOOL TURNS OUT NEW OFFICERS

The following interview with the Commander of the Frunze Military Academy, one of the many advanced schools for Soviet army officers, was published in *Pravda* December 22d:

The war has imposed new tasks on the Academy, which has modified its program in conformity with war conditions. The length of the training period has been reduced, time is used more intensively, and secondary subjects have been abolished from the curriculum.

Special attention is being given to quick orientation and correct evaluation of the military situation and to operations against the *enemy's flanks and rear*. Our main object is to teach commanders of all arms to direct their troops in the midst of battle and in constantly shifting situations.

Much attention is given to enemy tactics, his strong and weak points, and to intelligence methods as applied against enemy tanks and air landing parties. Tactics of fighting at short range, which play an important part in modern warfare, are equally stressed. Red Army students are taught to handle not only modern Soviet weapons but also enemy weapons.

The Academy has already sent large contingents of trained officers to the front. A large part of the student body and of the faculty as they existed when the war began have been assigned to active duty. Some of them have already distinguished themselves in battle, including Major General Golubev, Major General Dovator, Hero of the Soviet Union Provalov, Hero of the Soviet Union Pogodin and others.

Despite the constantly growing demands of the front, new classes of students have successfully completed the Academy's course. Of the new students admitted, over 70 per cent have previously received university or tech-

nical education. The age of most of the students ranges between 20 and 35.

#### ADDITIONAL DATUM

As the result of the custom of adding captured artillery to cavalry units during the revolutionary wars, and the successful part played then by cavalry in rapid flanking operations, cavalry has been greatly increased and given as much fire power as motorized infantry, being armed with small and large caliber machine guns and 2 lb. mountain guns. Dismounted cavalry, so armed, alone successfully opposed the Japanese a few years ago in Manchuria. Cavalry predominates in all of the steppe and desert country throughout the southern U.S.S.R. from West to East.

The present Russian cavalry strength is estimated at one-half million. The Cossacks constitute most of the cavalry. They are geographically divided and known as Don, Siberian, Terek and Kuban. The latter, also known as Caucasian Cossacks, are recruited from twelve tribes and are the fiercest.

Cossack regiments attached to northern centers do not wear the Cossack uniform, appear like regular cavalry, which last may have slightly heavier horses as the government is operating stud farms. Cossack home bred horses are fairly light and not large. The Cossacks are armed with five-shot carbines, slightly curved sabers, and almost without exception have discarded lances.

#### TACHANKAS

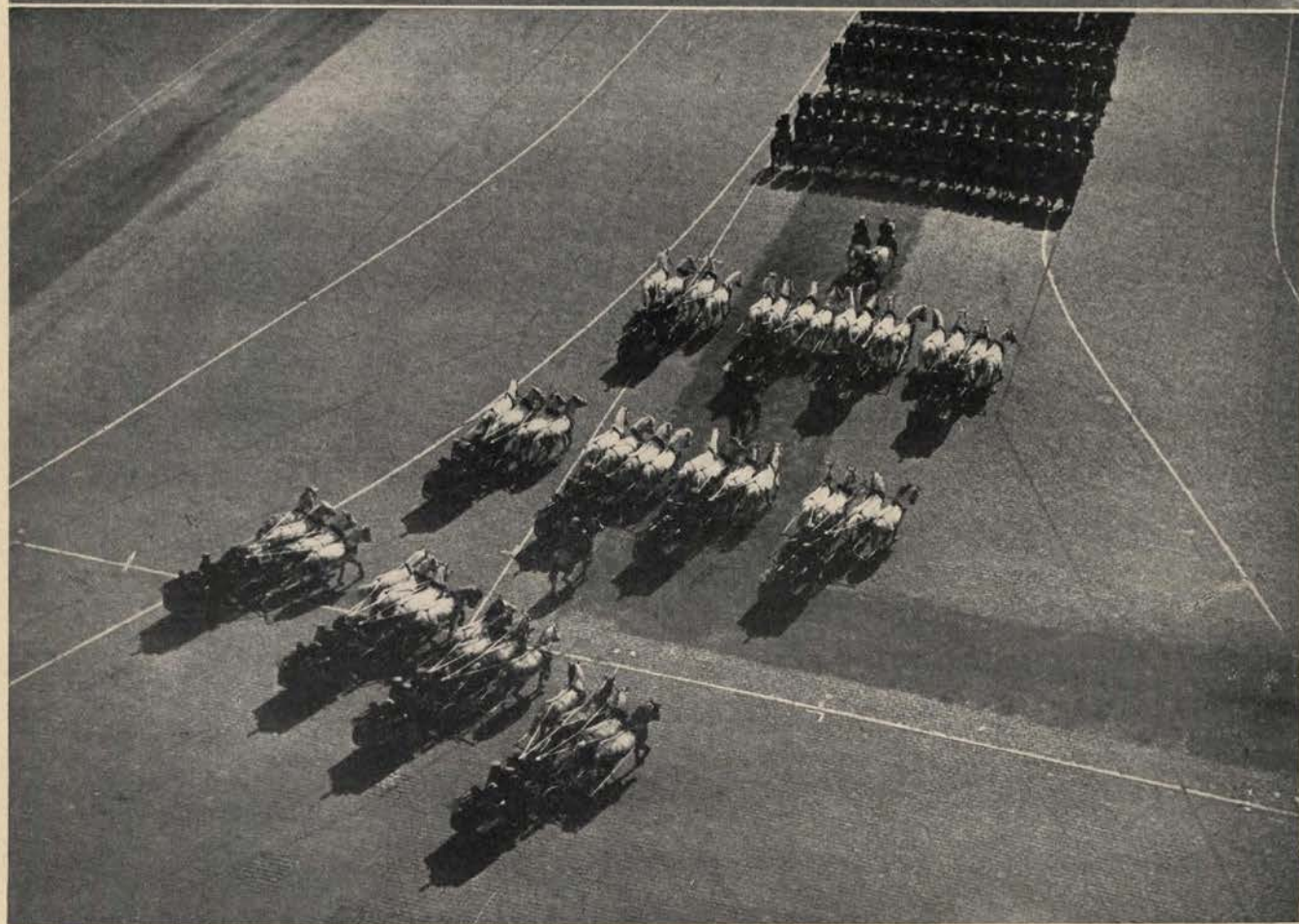
"Tachankas," horse-drawn carriages mounting .50 caliber machine guns (see accompanying photographs), are attached to cavalry units. Harnessing four abreast is the outgrowth of the nationally used three horse tachanka (high wheeled rig). The extreme off and nigh horses can be cut loose if necessary. Military tachankas seat the gunners facing the gun breech.

Army tachankas originated during the revolutionary wars when two seated high wheeled carriages of that name, were used as gun mounts.

Tachankas also are used by irregulars or mounted guerrillas. The farm type with three big and fast horses, the center horse between shafts, is used in raids. The occupants use machine guns, hand grenades and German Mausers, carbines being scarce and rifles cumbersome. Irregulars are organized in units of ten men with sometimes ten units in a command. The element of surprise enters largely into their operations. Driving tachankas at full speed through enemy occupied towns and villages, machine gunning the while, and disappearing rapidly, is a favorite method of attack. When snow comes three horse sleighs are similarly used. Mounted irregulars use all kinds of horses, depending on locality and personal choice. (A recent news picture showed a tough looking horse smaller than a western cow pony.)







Tachankas (horse-drawn machine-gun carriages) on parade in their beloved Moscow





Soviet Turkestan: The Turkoman Camel Corps (Camel Cavalry) on the march.

## CAVALRY—IN GENERAL

Cavalry leaders in a war of movement are more essential today than ever before in our history. The tactical principles have not changed with modern developments. It is the *methods* of cavalry that constantly are undergoing improvement affecting mainly the factors of time and space, armor and armament.

When an army advances to battle some mobile group, for the "mass," must perform those time-honored ground missions involving reconnaissance, security, offensive and defensive combat, exploitation, covering, or pursuit operations. Whether the horse—in saddle or pack, camel, elephant, the motorcycle, jeep, scout car, armored car, combat car, truck or portee trailer is used (any or all) is merely a means to the end of accomplishing cavalry missions. Animals and vehicles should be used wherever they are most effective. Whether it be by horse cavalry, mechanization, or both, getting the cavalry job done is the main idea—call it what one may.

Let us not be hidebound to terminology. The terrain, time element, and opposition indicate the mode of travel; the specific situation indicates the required type of combat. The respective equipment and organization should meet this requirement.

The catch phrase "Blitzkrieg," which seems to have captured popular civilian fancy, is not new to cavalrymen. Blitz tactics are normal cavalry tactics. Modern warfare emphasizes the need of well-balanced combat teams. Neither cavalry nor infantry nor the armored force can advance now without the proportionate supporting assistance of all of the other arms and services. For cavalry, highly mobile engineer and artillery support is essential. Combat aviation in support of ground troops has entered a new phase of importance. Effective coordinated teamplay, however, can be obtained only by actual practice in the development of technique. *We must pull together without prejudice.*





GENERAL HERR  
On his private mount *Star Witness*, grandson of *Man o' War*



# General Herr's Address<sup>★</sup>

## Why Should the United States Lag Behind Other Great Powers in the Military Use of Animals?

### INTRODUCTION

Mr. President and Members of the Association. I am glad to be here. It is gratifying to be with people who like the horse. I find many who are really hostile to this noble animal. Always I find in them other symptoms of unbalance.

I will talk to you briefly as follows:

FIRST, a survey of the comparative use of animals in the Russian, Japanese, German, and American armies, with more detailed comparison as regards German and American armies.

SECOND, I will discuss the present and probable future effect of mechanization and air on the use of animals in war.

THIRD, I will tell you what our American cavalry really is and how we hope to develop it to keep abreast changing conditions.

FOURTH, a few words concerning the influence of your association, of our remount service, and of mounted sports on the future of the horse.

FIFTH, conclusion.

### 1. THE USE OF ANIMALS IN OUR OWN AND FOREIGN ARMIES.

#### a. General Comparison.

All foreign armies except the English use animals in great numbers. I will consider only the greatest, Russia, Japan, and Germany, with special attention to the German as first in efficiency.

From the most reliable sources available, it appears that the Russian Army has more than 1,000,000 animals; the Japanese Army has more than 375,000; and the German Army includes, as a conservative estimate, more than 960,000 animals. The American Army has 50,000.

Breaking down these figures further, we find

	For Cavalry Use	For Draft and Pack
Russian Army	200,000 <sup>1</sup>	800,000
Japanese Army	50,000 <sup>2</sup>	325,000
German Army	50,000	910,000
American Army	25,000	12,000

NOTE: In remount depots and for administrative purposes, etc.—13,000.

<sup>★</sup>This address was delivered in Chicago, Illinois, December 3, 1941, by Major General John K. Herr, Chief of U. S. Cavalry, at the annual meeting of the Horse and Mule Association of America.

Recent reports from abroad eloquently confirm the soundness of General Herr's masterly analysis of the military use of animals.

#### b. Use of Animals in Our Own and German Armies.

As the German Army is the most efficient in the world, let us compare further the use of animals in the German and U. S. Armies.

For cavalry purposes, Germans 50,000—U. S. 25,000.

Although the Germans have but one cavalry division, while we have two, they use much more cavalry than we do for reconnaissance purposes. They have more corps cavalry regiments than we have, except that theirs are made up of bicycle squadrons and marching horse squadrons. I will show later how ours are constituted. They also have smaller horse groups, often a troop, as reconnaissance groups for their marching divisions. We have no horse reconnaissance groups with our marching divisions and small mechanized reconnaissance groups with only nine of our divisions. Eighteen of our marching divisions have no reconnaissance groups, either mechanized or horse. The Germans have a scouting platoon of 30 horsemen in each marching infantry regiment. We have none.

For artillery purposes, Germans 464,000—U. S. 11,000.

For draft and pack other than artillery, Germans 446,000—U. S. about 1,000.

Thus we see that by far the greatest discrepancy existing in the use of animals between the German Army and our own Army is found in the use of draft and pack animals, chiefly draft. Why is this? First, let me tell you that the Germans have approximately 25 mechanized divisions, 35 motorized divisions, and 245 marching divisions, i.e., those where the infantry walks. We have 5 mechanized divisions, 1 motorized division, and 26 marching divisions. It is in the marching divisions that we find the differences.

<sup>1</sup>The Russians have approximately 40 divisions of more than 130 regiments of cavalry. The splendid work done by the Russian cavalry in pursuing the retreating Germans could have been done by no other arm. During the subzero weather the horse requires neither oil nor gas nor warming up to move. Tank units bog down in the cold weather.

<sup>2</sup>As a result of the war in China, Japanese cavalry has more than doubled. The Remount Service, in both Japan and Manchoukuo, has been doubled and the most painstaking care is being exercised to develop more and better mounts. The Japanese have stated:

"Many things hitherto unnoticed even by the thinking public have been brought to light, frequently with new emphasis and implications, through experiences undergone on the China and home fronts in connection with the present conflict. The usefulness of the horse in modern warfare is one of such discoveries. In reality, without the services of this dumb, faithful animal, Japanese troops would not have been able to carry out successful, daring attacks upon enemy positions, particularly in battles on the rugged steppes and in the narrow passes of the Chinese mountains. Contrary to popular expectations, the increasing mechanization of the Army has by no means diminished the utility of army horses. The present hostilities have certainly established their distinct place in modern warfare."





Germans find uphill going in Russia.

In the German marching division all the artillery and practically all the other transportation, whether of supply or fighting echelons, is drawn by animals. In our divisions there is not a single animal; all our vehicles are motorized. Why this striking difference? The Germans claim that there is no reason for using motors where animals will do as well. Animals can draw vehicles as fast as men can march so why use motors with marching divisions? The Germans use great fleets of motor vehicles to bring supplies from bases to the divisions. Thus it is motors for the long haul and horses for marching transportation. They believe also that it is wise to balance the use of resources. Although we are the greatest motor country in the world, we have vastly more animals than has Germany. With more than 10,000,000 horses and 4,000,000 mules in this country, why should we not achieve a similar balanced use? Although I have tried to find out why we insist on using motors for tasks which the horse can do as well or better, I have yet to find any convincing answer. I do not believe there is any adequate answer. If we used animals to the same extent as do the Germans, over 4,000 per infantry division, we would need 100,000 more animals, chiefly of the draft type. About 50,000 of them would be for artillery use. What does the Chief of Field Artillery, General Danford, think about it? I quote from one of his addresses to which he still adheres:

c. General Danford's Opinion.

"At this time, it seems appropriate for me again to make a few remarks with reference to the oft recurring argument of horse versus motor, and to state my views thereon.

"I have frequently remarked that I believe the easiest thing the Field Artillery could accomplish today would be to eliminate the horse completely from the arm. Congress and the country are definitely machine-minded and many brilliant officers simply can not see horse-drawn Field Artillery except as a relic of a bygone day. Student officers at our service schools, and commanders and umpires in our maneuvers, do not like to be slowed down by a horse-drawn artillery. In our map rooms we magnify the importance of strategic mobility, while we ignore almost completely bad weather, bottomless roads, and their effect on battlefield mobility.

"It is my belief that in war every means and agency procurable will be utilized in the prosecution of the war. It is conceivable that, as in the last war, the steel capacity of our country can not satisfy the well-nigh insatiable demand for airplanes, tanks, motor vehicles, guns, ammunition, bombs, manufacturing machinery, civilian needs, etc., and that someone in authority will say to the then Chief of Field Artillery, 'Animals can be used by you—this country's horse population is enormous. You must plan to utilize it to the fullest extent possible.'





German Infantry and supplies on the march.

"I can see no argument about this matter myself. The motor is far superior to the horse in some situations, while the horse is superior to the motor in others. For light division artillery, the horse still remains superior as a prime mover off roads through the mud, the darkness and the rain. He does not scrape open his belly on a rock, he does not fall off an embankment, he does not smash his head against a tree, and he still works a bit longer when his fodder is exhausted. In other words, the horse *can* be used by us, and he still remains superior to the motor, in what are usually the most difficult situations involving the emplacement of guns to support the jump-off of the division infantry at dawn. To discard him during peace in favor of the motor, 100 per cent, is simply putting all our eggs in one basket, and is, in my judgment, an unsound policy. There is today a minimum of argument regarding this matter within the Field Artillery itself. We have pretty well accepted the idea, that with the National Guard 100 per cent motorized, the Regular Field Artillery officer is not 'horse or motor,' he is 'horse and motor' and must qualify himself to utilize both to their maximum degree of efficiency."

d. Discussion.

The situation so wisely forecast by the Chief of Field Artillery is now here. We cannot now fill the insatiable demand for airplanes, tanks, motor vehicles, and other war supplies now vitally necessary for the equipment

of our own forces and those of our friends. The time is now here when we should utilize the horse to the fullest extent possible, thereby releasing the products of industry for other vital needs. This is obviously a matter of plain common sense. Although we are now over-motorized, this can be adjusted by replacing motors by horse-drawn vehicles in at least one-half of our marching divisions and by using animals in all marching divisions to be formed in the future. Will we be wise enough to do this? I doubt it. The motor-mad advocates are obsessed with a mania for excluding the horse from war. This idea always gets a favorable press.

## 2. PRESENT AND PROBABLE FUTURE EFFECT OF MECHANIZATION AND AIR ON THE USE OF ANIMALS IN WAR.

### a. General.

The German armored force-air team has profoundly influenced the trend of present warfare. It has restored the war of movement. Why? First because of perfect teamwork. Second because the tanks are invulnerable to the small arms fire of rifles and machine guns. Third because the Germans have had overwhelming air superiority. Superiority which not only swept enemy air from the skies and secured complete information of enemy movements but which by use of stuka dive bombers and attack planes actively attacked enemy groups endeavoring to block the advance. Without



such overwhelming air support, the swift advance of armored forces would be impossible. Nevertheless the Germans have restored the war of movement. This has effected to a considerable degree all the combat branches. They have motorized 35 infantry divisions to more swiftly support the fast-moving armored divisions. They have also motorized part of their artillery to move in swift support. Remember though that the backbone of the German army is 245 marching divisions which follow to occupy, mop up, and fight when the spearheads are stopped.

*b. Effect on Cavalry.*

This getting into the open is a happy break for cavalry. Unfortunately for the Germans, although they had reconnaissance units for the regiments and divisions, they had but one cavalry division. In the advance into Russia, they lacked the cavalry strength in divisions and corps which would have greatly assisted them. Consequently after the breakthrough of German armored forces, the Russian enemy often closed in along the line of advance and pinched off vulnerable motorized infantry which followed. The Russians also frequently interposed between the motorized infantry and the marching divisions. Isolated armored units were surrounded and destroyed. Guerrilla warfare flourished. The tank elements were ambushed by antitank units.

Cavalry can cope with all these situations. It will ferret out antitank units waiting in ambush. It will

protect the flanks of the motorized infantry in battles and form a link with the slower following marching divisions. It will cope with guerrilla warfare. It is well suited to hunt down parachutists. It has the flexibility and mobility which enables it to fill in all the weak gaps.

Under no circumstances should we blindly ape the Germans. If we give scope to our imaginations, we may, by the addition of cavalry, forge the strongest spearhead of exploitation yet devised.

I believe many of our progressive thinkers hold this view. In this connection I wish to quote extracts from a letter of Major General Charles L. Scott, United States Army, Commanding the 1st Armored Corps, to Major General Innis P. Swift, Commanding the 1st Cavalry Division.

"1. I wish to express to you and all the personnel of your fine division my appreciation and that of the entire personnel of the I Armored Corps for the splendid cooperation and assistance received in forcing a crossing of the SABINE RIVER at JOAQUIN on September 28, 1941. The successful crossing of this river and the establishment of an effective bridgehead could not have been accomplished in the prompt and efficient manner that obtained, without your bridge equipment and without the most remarkably efficient crossing of your horse elements over a foot bridge.

\* \* \* \* \*



Italian mountain battery moving into position.





Using horses and their own shoulder power, these Rumanian soldiers are pulling out a German staff officer's car after it bogged down on the southern front. From the Ukraine an Axis reporter described the "chocolate" mud.

"3. I regret that the exercise did not continue through another day because I believe that your division could have demonstrated most conclusively that it could assist armored units in their movements forward over difficult terrain and could follow up promptly and effectively the attack of these units after it had been launched."

As many of you know, General Scott was at one time head of the Remount Service and one of our noted horsemen, and it is not surprising that he is able to appreciate the value of horse elements. Thus, strange as it may seem, mechanization, by its great part in restoring the war of movement, has increased the opportunities for the use of cavalry.

#### (2) Relative Increase in Air Power.

We trust the war of movement will continue and we believe it will, but we foresee a radical and swift change in relative powers of the armored force power and air power, which will effect the war of movement.

##### (a) Antitank Threat.

First, the power of armored forces will decrease because of the antitank threat.

The development of fast-moving antitank units, the core of which will be self-propelled vehicles mounting guns capable of shooting holes through any tank, will stop armored vehicles just as the machine gun stopped

men. Although armored force commanders hold that the only answer to armored units is other armored units, I cannot agree. Theirs is a natural and interested viewpoint because it means more tanks. The answer to the armored knights was also presumed to be more armored knights, but the projectile gave a swifter and cheaper solution. You will recall that the arrows of the Incas and Aztecs glanced harmlessly off the mail-clad knights of Pizarro and Cortez, but when the English crossbow and later the musket came upon the scene, the armor was relegated to the museum. Likewise, although the present armored units are invulnerable to small arms fire, it is possible to produce myriads of antitank weapons to which they are vulnerable and which can be moved around just as fast as tanks and probably faster. In view of the fact that the present tanks cost about \$1.00 a pound, i.e., a fifteen-ton tank costs about \$30,000 while for the same money scores of unarmored vehicles carrying antitank weapons may be produced, there can be but one answer. As a matter of common sense and of dollars and cents, the diminishing power of the tank is indicated. The experience of the experimental antitank squadron formed by the 1st Cavalry Division for use in Louisiana maneuvers supports this view. The core of this force consisted of 36 "bantams" or ¼-ton trucks with 37-mm. guns mounted on





German troops moving southward in the Ukraine, using commandeered vehicles to supply Infantry columns.

them. About 72  $\frac{1}{4}$ -ton trucks were used as accompanying vehicles to carry ammunition and with machine guns mounted on them to cope with enemy infantry. This squadron proved extraordinarily successful. The report shows that the armored forces feared it more than any other opposing unit; that this force not only destroyed attacking tanks but also was able to hunt down and destroy tanks. Remember antitank development is in its infancy.

(b) Air.

Second, the power of armored forces will decrease because of the constantly increasing air power.

Great as air power now is, it is still in its infancy. Soon we will have planes mounting highly effective antitank guns. What will be the effect of the antitank gun, the bomb, and the machine gun respectively on the tank, the unarmored vehicles, and the personnel in trucks? It needs no vivid imagination to foresee the carnage. Whenever enemy air can establish superiority, armored forces will be destroyed. It will be like hawks swooping down on rabbits in their runways.

c. Discussion.

Thus air power will become the strongest factor in causing a breakthrough and a war of movement. The relative power of armored forces will diminish. The relative power of cavalry will increase as a member of the ground exploitation team because of its cross-

country mobility and powers of dispersion, which enable it to avoid losses from the air and continue to move. These inherent powers also enable cavalry to evade tanks, continue on, and attack supply columns and infantry in trucks.

Cavalry will disperse for protection and proceed on its mission.

### 3. OUR CAVALRY AND ITS PROBABLE DEVELOPMENT.

#### a. Our Cavalry.

##### (1) General.

Our Cavalry is, I believe, the best in the world. This is because it has developed in a different manner from European cavalry. Instead of fighting mounted, our mounted troops have followed the methods of Sheridan, Buford, and Forrest, fighting almost always dismounted and using the horses to place our riflemen and machine guns in an advantageous position. The ordinary citizen does not realize this. . . . He is misled by incredibly stupid writers who persist in picturing cavalry as medieval knights insanely committing suicide by fighting mounted against modern tanks and machine guns. I saw such an absurd article in a recent issue of the *American Blood Stock Review*, entitled "War and Horses." Funnier still was the caption on the booklet, "A Magazine Devoted to Horse Breeding."



I will tell you what our cavalry really is.<sup>3</sup> It numbers about 30,000 men and consists of 21 regiments and 10 separate troops. Nine of these regiments are National Guard and 12 are Regular Army. Ten of the regiments go to make up our two regular cavalry divisions of 4 regiments each, and the 56th National Guard Brigade of 2 regiments. These large groups are primarily for use in large operations to assist armies or groups of armies. They may be organized as a cavalry corps under GHQ combat or may be separately attached to armies.

(2) Reconnaissance Units.

The smaller units, consisting of 11 regiments and 10 mechanized troops, are chiefly for attachment to infantry units, mainly for purposes of reconnaissance and scouting. Thus 9 of these regiments are horse and mechanized corps reconnaissance regiments.

(a) Horse and Mechanized Regiments.

Our horse and mechanized regiments consist of a mechanized squadron of scout cars, bantam cars and motorcycles, and a horse squadron of 555 horses portéed, i.e., with each complete fighting unit a squad of 8 men, 8 horses, equipment and arms carried in a truck-tractor

<sup>3</sup>It is rather a tragic situation also that a vast number of army officers, including many of high position, have very little understanding of the real value of American Cavalry. They little realize that it is the one branch we have developed which is better than that of any foreign nation. Many of them seek to minimize its value and to ridicule it and finally to do away with it, totally unaware of the real value of the treasure which they have.

with semi-trailer. The entire horse squadron is loaded in from five to seven minutes. The signal platoon, anti-tank platoon, and pioneer platoon are motorized so that this entire regiment can move on wheels. They are part of the army corps for use as reconnaissance regiments. One of these regiments, the 4th U. S. Cavalry, during the maneuvers of last summer *marched approximately 5,000 miles from Fort Meade, South Dakota, to Louisiana and return, participating in all the maneuvers.* The rate of march to and from the maneuver area was *over 200 miles per day at an average rate of 25 miles per hour, with a cruising rate of 30 miles per hour.* Because of its power to bring its animals fresh to the battle area and then to operate with both machines and horses over all types of terrain, the horses often swimming streams and traversing areas inaccessible to vehicles, it was highly successful and earned the plaudits of all commanders. During this entire period of almost two months, only 6 horses were evacuated—5 for wounds and one for laminitis. The horses were in fine shape at the conclusion of the maneuvers, showing the value of using motors to conserve the horses.

(b) Mechanized Troops.

Nine of the scout car reconnaissance troops are for reconnaissance units for the 9 triangular divisions. Unlike the Germans, we have no horse reconnaissance groups with our Infantry divisions and regiments. We need them. *Obviously the combination of horse and*



Battling the elements. Horsepower moves German guns into position in deep snow.





Germans pack food to troops in combat areas prohibitive to motor vehicles.

*motor is the most effective organization to conduct reconnaissance over all kinds of terrain. Vehicles are largely restricted to road reconnaissance. We should also have at least one squad of horses portéed for use of all division and corps staffs, both infantry and armored, for use in detailed staff reconnaissance. This would also save some of our Generals from capture.*

### (3) Cavalry Divisions.

#### (a) Composition.

Each cavalry division is a self-contained fighting unit, supported by auxiliary arms and services, just as in an infantry division. The horse strength of a cavalry division is 7,413 of which 6,080 are used in the 4 regiments for riding and pack and 1,156 used by the two horse artillery battalions for draft and riding. There is a troop of pack mules in the Quartermaster Squadron. All other units are mechanized and motorized. This includes the fighting units of one battalion of 155 howitzer artillery antitank squadron and mechanized reconnaissance squadron of 2 bantam troops, a motorcycle troop, and a light tank troop. This is largely because horse-drawn vehicles cannot keep up with our marching cavalry. Also, all service units such as Engineers, Signal, Medical, and Quartermaster are motorized. We have in our Quartermaster Squadron two troops of truck-tractors with semi-trailers, like those in the horse and mechanized regiments, capable of transporting one squadron of horse cavalry. Thus in our cavalry divi-

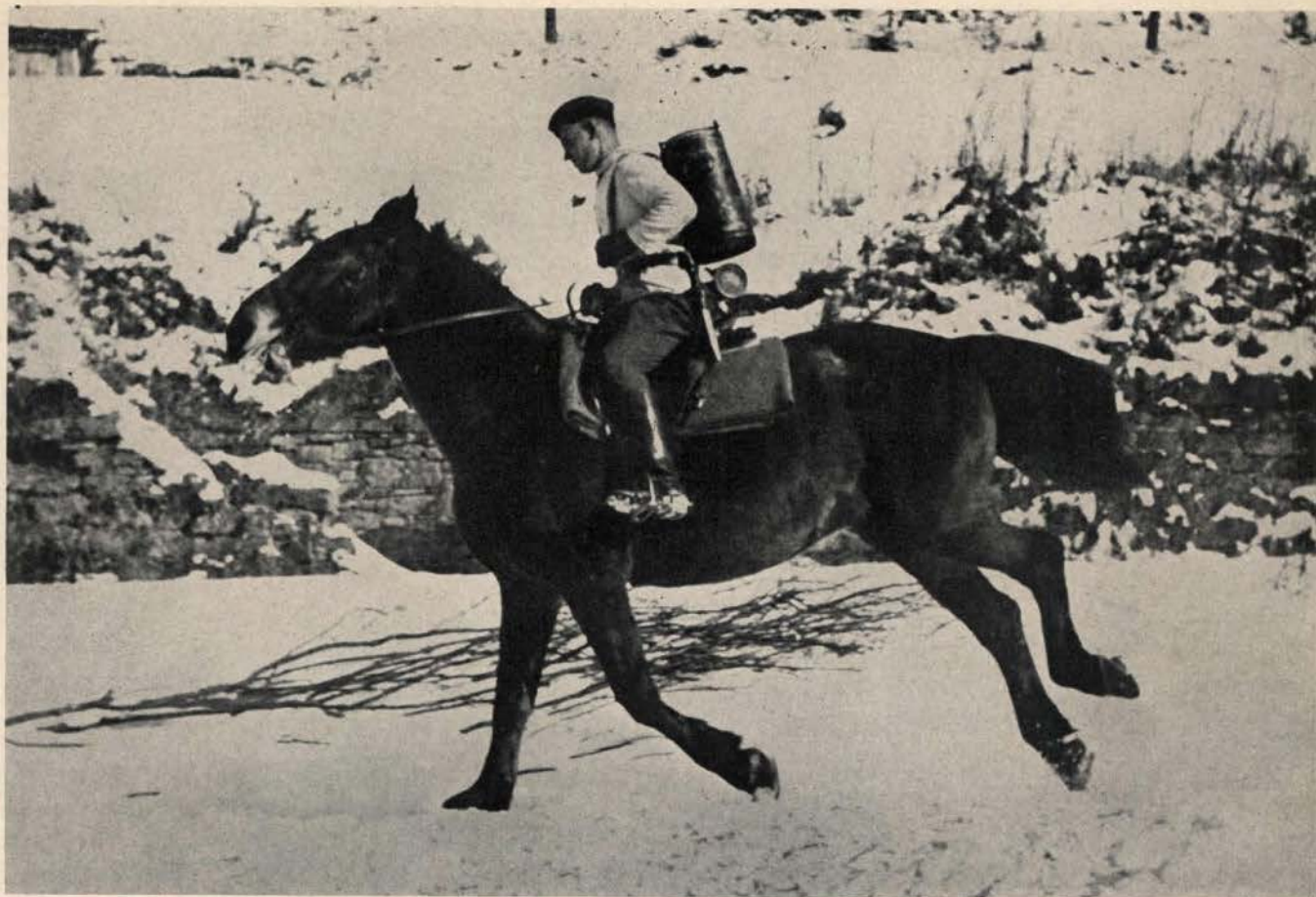
sions we use both motor and horse for reconnaissance purposes. We have no prejudice against the motor or against mechanization, as is shown by our employment of both where helpful.

#### (b) At Maneuvers.<sup>4</sup>

Maneuvers at their best are highly artificial. In recent maneuvers, the cavalry divisions were used chiefly on the flanks for wide sweeping operations, sometimes in combination with armored forces. These missions were suitable and effectively accomplished, although requiring unusually long and forced marches to adjust their movements to the unnatural speed of approach of the opposing infantry forces, moving in trucks along

<sup>4</sup>In all the maneuvers that have been held in the past two years opposing forces have been set down opposite one another at distances varying from 50 to 100 miles with the stipulation that no part of either force shall cross a fixed line before a certain time. Thus the maneuver starts with an assumption of unreality which affects the whole conduct of the exercises; knowing there can be no enemy between these fixed lines, commanders proceed to commandeer all the trucks they can get from the supporting services, dumping even the kitchen stoves on the ground, load these up with about one-third of the infantry troops and proceed to boil down the roads toward one another, without any reconnaissance of the fields and forests. Naturally, under such unreal conditions it is plain that cavalry is too slow to move out in front of these forces. This is undoubtedly true under the assumed conditions, but you would not find any such conditions in war. Thus unsound conclusions are based on methods which are the result of unsound and unreal assumptions. The resulting road war caused by the clashes of these heads of columns also caused the unsound assumptions to be made that the portéed horse squadron is not necessary in a horse and mechanized regiment. Naturally, nothing is necessary under such absurd assumptions, except motors rolling down the roads.





Mounted food carrier gallops across exposed area to reach troops under fire.

the motor roads. In war, enemy air would attack the truck columns. If released, squadrons of enemy cavalry, infiltrating forward between roads, could have waylaid, ambushed, and ruined most of these columns racing down the roads with no reconnaissance of intervening country.

Another artificiality incident to this type of maneuvers was the necessity for cavalry to make long road marches between phases or problems to reach new positions according to the pasteboards set up on the great map of the control room. After prolonged tactical marching in one exercise or phase, it is a bit annoying for cavalry to be obliged to make long marches to new positions, and to plunge immediately into a second exercise with no rest for horses or men, while all other troops were shuttled by motor to new positions. These things actually happened. For instance, between the first and second phases of the GHQ exercises, the animal elements of the 1st Cavalry Division marched almost 100 miles in the interim of four days, while everyone else was motoring or resting.

During the period August 17-October 1, the 1st Cavalry Division marched about 1,000 miles with little rest. On one occasion it marched 73 miles in 39 hours. Again it marched 44 miles in 20 hours, crossing the swiftly flowing Sabine River, and delivered a decisive blow against the right rear of the enemy army, capturing and destroying the gas supplies of the 2d Armored

Division. Again it marched 71 miles in 35 hours, again crossing the Sabine River, swollen by rains to a depth of 10 feet, and established a wide bridgehead for the crossing and development of the 1st Armored Corps. The 2d Cavalry Division performed scarcely less notable feats. It was the only large force which could be extricated from combat and speeded to combat the 1st Cavalry Division in its drive against the supply lines of the wing. It may interest you to know that in spite of having it tougher than anyone else, the cavalry soldiers although driven to the utmost effort were at the end of these maneuvers cheerful and ready to go on. It was really inspiring. There has never been any question as to the morale of our cavalry.

#### (c) Horse Casualties.

Considering the conditions, the horses held up mighty well also. Of a total of 11,000 animals in the two divisions, the total number of evacuations which includes all absence from duty, although often for trivial injuries and for a few days only, totalled 2,722. Of these 1,400 were returned to duty during maneuvers, and by the end of October, all but 120 had been returned to full duty. Only 87 animals died or were destroyed. It may interest you to know that the majority of these horses were remounts of less than six months' service. The 1st Cavalry Division had 25% remounts. Of these 864 were 5-year-olds and 44 four-year-olds. The 2d Cavalry Division which was expanded rapidly



had 95% remounts. Of these 976 were 5-year-olds and 57 four-year-olds. Horses over six years of age showed up much better than the others. As I have stated, out of 450 horses of the 4th Cavalry, only six were evacuated. Had truck-tractors and semi-trailers been available to shuttle our division horses, the evacuations would undoubtedly have been similarly reduced.

#### (4) Horse with Motor.<sup>5</sup>

Arrived in the battle areas, where roads can be used but little, cavalry has greater tactical mobility than any other arm. Why not give it the same strategical mobility as other troops have? It is just as easy to transport horses on motors as to transport men or guns. It is done by rail. Why not by motor? The chief criticism of cavalry divisions has hinged on the lack of strategic mobility in competition with the motor on the road. Why not give him the motor? I tried to secure these but met with opposition. First, it was claimed that the truck-tractors with semi-trailers had not yet thoroughly proved themselves, and that we should wait until after the maneuvers to find out. To my mind, they had already been proved. The other objection was that "Transportation which must itself be transported on oc-

<sup>5</sup>Wherever men fight on their feet on the ground in a war of movement there will be a need for horses to transport these men with their fire power at a faster pace than can be done on foot. This is the real competition, that between a man on a horse and a man on his feet. It is not a competition between horse and motor.

casions is obviously inefficient. It must justify itself by other essential qualities, which are not too apparent in horse cavalry." There you get the picture. Reluctance to place the horse on a par with the man and skepticism as to the value of cavalry. The fine performance of our cavalry divisions at maneuvers did much to dissipate this unbelief in cavalry. The truck-tractors and trailers proved highly successful. *And, I now have hopes of accomplishing my purpose to equip the division with horse carriers for long hauls.*

#### b. Probable Development.

Our cavalry divisions should be so developed as to enhance their unique power to disperse under control moving over all kinds of terrain. This involves the use of air transport to replace much or all of the wheeled transport for purposes of supply. The employment of only such combat vehicles as possess the greatest degree of cross-country mobility, such as bantam cars. The use of horse trailers to increase strategic mobility. Attached air bombardment groups to furnish swiftly moving air artillery support. Grasshopper planes to insure control of dispersed forces. We must so develop our individual soldiers and small unit leaders as to be able to find their way over unknown terrain singly or in small groups, and to care for themselves and their animals as did the scouts of frontier days. The training of a military team is like that of a football or polo team. Stress the fundamentals to perfection. Then build up the



Chinese pack saddles.





Japanese pack saddles.



Japanese forces move through the streets of Saigon, Indo-China, under the occupation agreement with the French government at Vichy.









Man and horsepower move guns to positions unapproachable by motor vehicles.

team play. We can do these things if given the green light.

#### 4. INFLUENCE OF THE HORSE AND MULE ASSOCIATION OF AMERICA, OUR REMOUNT SERVICE, AND MOUNTED SPORTS.

You of the Horse and Mule Association and we of the Army have a community of interest in the development of the horse. As we know, in these motor-mad days it is difficult to get a square deal for the horse. This applies to both civilian and military. You are aware of the aggressive efforts of certain motor interests to push their products by publishing pamphlets comparing horse and motor and teeming with exaggerated and untrue statements which you have exposed. You have not the promotion funds at your disposal. You might try forming some corporations of horse and finance to enable you to offer some fine animals for a small down payment and monthly installments to include insurance at 12% interest or more. Anyway you are doing a fine constructive job in advancing the interests of the horse.

Our Remount Association has also done a wonderful job as you know. It purchased during the fiscal year 1941:

Horses, Riding .....	22,720
Horses, Draft .....	1,333
Mules, Pack .....	4,096
Total .....	28,149

Its authorized purchases for the fiscal year 1942 were:

Horses, Riding .....	4,785
Mules, Draft .....	342
Mules, Pack .....	1,799
Total .....	6,926

During the fiscal year 1942 up to December 1, 1941, it purchased:

Horses, Riding .....	3,140
Mules, Pack .....	198
Total .....	3,338

I have observed all the remounts sent out during the expansions to cavalry units, and I concur with the various commanders that this is the best group of remounts ever sent to our units. This reflects just credit on Colonel Hardy and his subordinate officers. As you know, the quality of horses in this country has greatly improved by reason of the intelligent efforts of your association and our remount service. Insofar as military

← Japanese baggage train on the march in China.





Flooded rice paddies are natural motor traps.

uses are concerned, this has more than counteracted the decline of numbers. I feel sure that this improvement in quality will also tend to stimulate the demand for animals, especially at this time when motors are needed for other purposes. It is an opportune time to urge the use of animals where possible to replace the motors.

We must continue to encourage all mounted sports, such as hunting, horse shows, racing, steeplechasing, and polo. All these require a fine type of horse and promote good breeding. From a military viewpoint such sports are of untold value in stimulating those qualities of dash, courage, and endurance which one needs in fast-moving war. Of all these sports, I regard polo as of greatest value to the soldier. It is a real practical school of training for a leader. It not only requires qualifications of training and riding, but the game demands teamwork, an awareness of the whereabouts of all players, both friend and foe, anticipation of play, instant decision, and rapid execution. It demands physical and mental activity. Swift action will not compensate for sluggishness of thought. Good polo players are generally fine cavalry leaders. Almost all our cavalry commanders of divisions, brigades, and regiments have achieved distinction in the game of polo.

## 5. CONCLUSION.

a. From the standpoint of military efficiency and a balanced use of our horse and motor resources, it is

believed we should use animal instead of motor transport in a proportion of our marching divisions.

b. We should add to the Armored Force—*Motorized Infantry Ground Exploitation Team, divisions and corps of cavalry* to produce the greatest exploitation force yet devised.

c. The most effective *reconnaissance is accomplished by motor plus horse*. We should have *horse reconnaissance groups with all infantry echelons from regiment to corps*.

d. The strategic mobility of cavalry divisions should be amplified by the use of motor transport, consisting of truck-tractors with semi-trailers to transport cavalry divisions on long road marches.

e. The power of armored forces will be diminished because of the threat of antitank power and air power.

f. The relative power of cavalry will increase because of its power to evade destruction from the air by cross-country mobility and dispersion. Cavalry will be able to disperse, evade, continue on its mission, and fight.

g. The greatest handicap to cavalry development is the complete misconception of our people as to what American cavalry really is. Our Army is sensitive to public opinion, even when based on ignorance.

h. The horse needs no favors. He asks only a square deal.



# MORALE: <sup>CARDED</sup> Its Elements and Sources

*By Lieutenant Colonel J. D. Stevens, CAC\**

OUR country is engaged in a mighty effort towards national defense. This effort finds expression in the creation of a military machine which will be effectively instrumental in enforcing our national policy. The physical proportions and material aspects of our program are enormous.

From the point of view of the military, manifold problems confront the army in its attainment of full stature. Augmentation has gone forward along lines reminiscent of cell propagation, the parent unit splitting into cadres which in their turn, by subsequent subdivision, have produced more nuclei. Tables of organization have been drafted and re-drafted. Tables of Basic Allowances have been computed and checked. Specialists have bent over drafting boards to insure perfection of technical design in the various weapons and instruments of war. Matériel has been tested and improved. Production lines are humming now, through prearranged priorities and broken "bottlenecks." "Bugs" in the 1941 model, U. S. Army are being eliminated on the proving ground of field service.

There is however, in addition to the structural perfection for which we are striving in this military machine, another all-important consideration. What of the sparkplug? If this mechanism fails in its essential function of injecting the life-giving properties of electricity into the vitals of the machine, the vehicle will not move. No instrument, its outward perfection notwithstanding, which depends for its activation on electricity, is of any value without a constant and regulated flow of current.

There is a kind of current which is as vital to an army's purpose as is electricity to a machine. Its qualities are as subtle and elusive. This indispensable electrifier is MORALE.

In a military machine, the leader is the sparkplug. He must galvanize it into action. He must energize the instrument toward the accomplishment of the mission for which it was designed. In a word, he must electrify the machine, which his staff creates and maintains, with the vitalizing spark of morale. On his capacity to perform this function depends the military value of his organization.

In view of the importance of morale, the leader should understand the nature of it; what it is; what are its elements and sources.

Man is, in many ways, a machine. The spirit which animates his being may be compared to the electricity which activates the machine. Potentialities, then, exist

in both. Both require the presence of a vital spark before their capabilities can be made manifest. Let us examine this intangible essence as it influences man's actions, and, since man remains the most important military element, its influence on our extended organization.

"These are the times that try men's souls," and surely morale can be called the soul of an army. Spirits are being assailed by disappointment and discouragement today, as certainly as when Thomas Paine uttered this famous phrase. In Napoleon's words: "The spiritual is to the physical, as two is to one." If an army has morale it can accomplish any mission; if not, it will fail. Let us trap this elusive quality and set it down in black and white, where we can analyze it.

Morale is the catalyst which insures the union of strength and will in an instrument of achievement. It is the impalpable, but unquestionable hallmark of military excellence; the sine qua non of military accomplishment. It is that indefinable presence which is definitive of invincibility; it is the adrenalin of aggressiveness. It is an intangible quality which gives concrete force to the efforts of the unit possessing it. Finally, on the one hand, it is an elusive will o' the wisp which beckons to all leaders who cannot infuse their commands with its stimulus. On the other, to leaders whose troops possess it, it is a beacon which inspires the undertaking and lights the way to accomplishment of any mission.

He who succeeds in inculcating morale in his command, will have soldiers whose:

Mettle is without a peer,  
Obedience is prompt and intelligent,  
Resourcefulness surmounts all eventualities,  
Assurance will not be denied,  
Loyalty is unswerving,  
Enterprise welcomes every challenge.

We have set up a body of attributes whose manifestations are indicative of the presence of high morale. We have delineated characteristics which will evince themselves in meritorious action, along the lines indicated, whatever the situation, whatever the mission. How are we to cultivate such an ideal state of mind on the part of our units, that, under all circumstances, we can rely on the desired reaction? Analysis of what we want is comparatively simple. To search out the sources of abstract qualities and from them synthesize the desired condition, is another matter.

In order to weld human beings into an instrument

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which assumes mechanical properties for the execution of an appointed task, we must deal with human nature. It is paradoxical, that in making men behave as machines, we must treat them as men. Human nature, often spoken of as fickle, has, strangely enough, changed not at all since recorded history. It is basically a constant quality, though its ramifications may at times be diverse. This fact should be remembered when attempting to produce that salubrious state of mind we are pleased to call high morale.

Let us examine the manifestations of morale in the order in which we have listed them above, and see if we can discover the sources from which they may be derived.

**METTLE:** The most important ingredient of this attribute is courage, that quality of mind which meets danger or opposition with intrepidity, calmness, and firmness. It may be true that courageous men are born, not made. In this sense, courage is a quality which must exist, *per se*, else neither the most dramatic situation nor the most inspiring example can call it forth. We are fortunate in knowing that the men who comprise our Army are well endowed with the fundamental American attribute. They wear the badge of courage already, and are sure to keep it bright with the proper example of leadership before them.

Vegetius takes the view that: "Few men are born brave; many become so through care and force of discipline." It might be more correct to say: Few men are born with an awareness of their own courage. In this case, we must convince such individuals of the existence of bravery within themselves. Accustom them to the hazardous, the arduous, the dangerous. Sun Tzu says: "Soldiers when in desperate straits lose the sense of fear." Confronted with a difficult situation, they find the innate quality of courage to exist in unsuspected measure. Its manifestation in the face of danger apprises men of its presence. Once summoned, courage will rise more swiftly when they are again called on to display their **METTLE**.

**OBEDIENCE:** In campaign, football-field execution of commands is imperative. Discipline, called the "soul of armies" by Marshal Saxe, is defined as the "habit of intelligent obedience" by our own field manuals. Saxe also foreshadowed our own interpretation when he said, "It is a false idea that discipline, subordination, and slavish obedience debase courage. It has always been noted that it is with those armies in which the severest discipline is enforced, that the greatest deeds are performed." And, as a matter of fact, it is generally true, that the unit which exemplifies discipline in its drills, has an excellent record in all other fields of military endeavor.

However, let us consider intelligent obedience as the means by which control is exercised. As such, it recognizes the superiority of the commander's military knowledge concerning the aspects of all situations and

insures the execution of his will in effecting a solution of the problem. It subordinates petty considerations to the accomplishment of the mission at hand. It gives direction to the means necessary to attain an end.

Men must be led gradually into the habit of intelligent obedience. In Sun Tzu's words: "If soldiers are punished before they have grown attached to you, they will not prove submissive. If, when they have become attached to you, punishments are not enforced, the soldiers will be useless." Obedience is based on the age-old principle of reward and punishment. Through this principle's application it should become habitual. Meritorious action and infraction of orders should alike receive prompt recognition and appropriate treatment. Although force is the ultimate instrument of compulsion, it should not receive undue emphasis. The primary object of imposing punishment is not retribution for the guilty, but deterrence of potential future offenders.

Abuses are not rectified by the issuance of orders, for the multiplicity of commands itself predisposes to noncompliance. The important thing is to implant in the minds of your men the conviction that orders issued will be followed up and enforced. Nothing is so prejudicial to discipline as the belief that many infractions go unnoticed. If a few violators are apprehended and the majority go free, those punished complain of injustice, while those escaping are prone to boast of their misdeeds. Issue few orders. Keep in mind that the manner in which orders are given will have a bearing on the way in which they are executed. See that they are enforced. Promptness of punishment, not its severity is the essential thing. Keep your men occupied with professional and recreational pursuits. Avoid, as much as possible, the idea of compulsion. These procedures, with prompt and impartial administration of justice, will inculcate in your command the habit of intelligent **OBEDIENCE**.

**RESOURCEFULNESS:** The possession of this attribute involves two elements: adaptability and foresight. In view of the casualties that may be expected in conflict, with consequent disruption of initial plans and organization, the value of resourcefulness is beyond question. Adaptability is conditioned by foresight. Every man should be taught to perform the functions of his teammates in the particular tactical unit of which he is a member. While this may appear inconsistent with efficiency in a day of specialists, it nevertheless has particular application in small tactical units such as the rifle squad, artillery gun and range sections, meteorological sections, and in lower echelons of armored, mechanized, and motorized units. Every man should also be capable of assuming the command functions of at least his immediate superior. So much for flexibility of attitude in a war of rapidly changing conditions.

According to Sun Tzu, "The general who wins a battle, makes many calculations in his temple ere the battle is fought." The employment of means to de-



velop a force which can reorient itself and carry on under changed situations, and in face of losses, has already been encouraged by our own commanders.

Commanding Generals of our overseas departments have directed that various units of one arm be trained to function as other arms. Maneuver situations were imposed which required the application of this principle by the units under their command. This principle has been extended to lower echelons, wherein company or battery schools for N.C.O.'s were conducted. In this way the duties and responsibilities of successive ranks were outlined for actual N.C.O.'s and potential non-commissioned officer material. Needless to say, the interest evinced in the cited instances was keen.

To paraphrase Napoleon, anticipation of, and preparation for contingencies constitute **RESOURCEFULNESS**.

**ASSURANCE:** This attribute stems from past accomplishment and enhances the prospect of future success. It is synonymous with confidence. Confidence is based on achievement. Achievement proceeds from ability, and ability is engendered by training and preparation.

Preparation and training are directed by the leader. In cultivating confidence in their troops, commanders will do well to consider the opinion of Vegetius, that the assurance of a soldier is heightened by his *knowledge of his profession*, and he only wants an opportunity to execute what he is convinced *he has been properly taught*. And he adds, "All arts and trades are brought to perfection by continual practice." No less the art of war, though the application of this truism is familiar to everyone.

Chances of success are multiplied by a conviction of the ability to achieve it. Conviction of ability is based on thorough training; teach a man to do his job properly and he will welcome the chance to demonstrate his capability. Success may depend on opportunity, but if assurance is lacking when opportunity knocks, you will lack the key to open the door.

Successful accomplishment produces a healthy state of mind which is sustained by pride in successive achievements. Thus, any new challenge is quickly accepted in order to uphold the record of past successes.

Confidence, however, has certain of its roots in the judgment of the leader. Hence, troops should not be assigned impossible missions. Neither should their confidence be compromised by allotting them tasks for which they are unprepared. Their ardor should not be vitiated by assignment to patently fruitless occupations. Careful and thorough training will develop ability, and this in turn insures success, which will stamp your organization with the hallmark of **ASSURANCE**.

**LOYALTY:** "Regard your soldiers as your children, and they will follow you into the deepest valleys; look on them as your own beloved sons and they will stand by you unto death." Although these words were spoken

by Sun Tzu 500 years before Christ, their truth is recognized in the paternal status of the commander, with reference to his troops, which is encouraged today. The importance of this relationship cannot be over-emphasized, and should be fully appreciated. The further admonition of the great Chinese general to "carefully study the well-being of your men, and do not over-tax them," should also be kept in mind. Personal loyalty, even in our mechanized age, cannot be replaced by any other factor. The paternal idea is natural and instinctive. It finds expression today in the common reference to the C.O. as "The Old Man." This is a homely term of affection but it means more, perhaps, than anything else in the morale of an organization. When all other considerations have been nullified by disastrous reverses, men will draw unsuspected strength out of personal devotion to their leader. Every officer should carefully study means to insure and enhance the loyalty of his command.

There are two chief elements which make up loyalty toward the leader. One is human or personal; the other is professional or official. The real leader commands both love and respect from his followers. Both of these are required.

Vegetius said the commander should "extend his care to every private soldier," and added, "he must know, if possible, the name of every count, tribune, subaltern, and soldier." This practice was followed to a remarkable degree by Napoleon, who habitually visited the camp fires with inquiring solicitude as to the physical well-being of his men. These and similar procedures calculated to foster personal loyalty paid dividends a thousandfold.

There is nothing which means more to a subordinate than *appreciation* of his efforts on behalf of the commander. Nothing is more gratifying to any man who serves, than recognition, by his superior, of a job well done. It satisfies the ego in all of us and calls forth the determination to merit further recognition of our efforts. The application of this principle may be attacked by some as prejudicial to the proper interpretation of "duty." However, a judicious approach to this question is within the discernment of all officers, and no other means of enlisting loyalty will be found so remunerative. It is perfectly natural that appreciation of their efforts and concern for their welfare, will implant in the hearts of the troops, a determination that "The Old Man" will never be let down.

With regard to the professional aspect, the commander must be a personal example of soldierliness, if he is to command the respect of his men. He should be with them in the field, and should be prepared to share the privations they undergo, whenever necessary. He should see to it that his professional attainments measure up to the expectations of his men. He should not allow his command to suffer because of his personal shortcomings, for "fidelity is seldom found in troops dis-



heartened by misfortune" or disappointed in their estimate of their leader.

In all official dealings, impartiality should be the watchword. In the words of Saxe: "Negligence should be punished without partiality and without distinction of rank; otherwise, you will make yourself hated. Severity must be accompanied with kindness, but this should not have the appearance of pretense, but of goodness."

Finally, in regard to loyalty, cultivate a sense of humor. A story of the famous Prussian, Frederick the Great, will illustrate the ability to see one's self as seen by others. While riding down a street in Berlin, Frederick came upon a crowd craning their necks at a caricature of the Emperor. Realizing the cartoon was lampooning his characteristic personal parsimoniousness, Frederick said, "Hang it lower, lower that they may not hurt their necks about it." To the rousing cheers of the crowd, the Emperor drove on, realizing he had materially increased his subjects' LOYALTY.

ENTERPRISE according to the dictionary, is boldness, energy, and invention in practical affairs. It connotes aggressiveness and initiative. It is developed by habituating one's self to constant challenges and new problems which require self-reliance and vigor in their accomplishment. It signifies verve and the will to win. "Unhappy is the fate," said Sun Tzu, "of one who tries to win his battles and succeed in his attacks without cultivating the spirit of enterprise; for the result is a waste of time and general stagnation."

Let us call enterprise the ambition to outdo others. One of the most enterprising officers in our army adopted the slogan, "Results, not Excuses," and posted this phrase over the organization bulletin board as a constant challenge to the unit. Many organizations have probably adopted similar watchwords to stimulate a desire for excellence.

A prerequisite of enterprise is pride. This rightly begins with the individual. Once the individual develops pride in himself, that spirit is extended to the whole outfit. As a basis of personal pride, a commanding general of one of our overseas departments insisted that pride in personal appearance is the open sesame to subsequent development of high spirit. Consequently, fit and tailoring of the uniform were made the object of

great attention, and this effort was visibly rewarded by the concomitant heightening of the soldier's pride in himself, his uniform, his outfit, and his Army. It was good psychology. Interest in appearance is receiving deservedly increased attention today. It should be stressed. Pride in the uniform is important for officers and should be equally so for all ranks. Increased pride in appearance contributes to élan, and sustains an aggressive attitude. This point, in general, should be remembered before consigning "spit and polish" completely to limbo.

Further impetus to an enterprising spirit is fostered by competition. In this case, pride in excelling whets the appetite for added prestige. Hence the value of inter-organization athletics, which is generally recognized. In at least one overseas department, a program of military games has been inaugurated. Organizational teams vied with each other in events ranging from such fundamentals as tent pitching, to those involving the highest coordination, such as battle practice. The competitive spirit thus engendered was something to behold. A constant challenge to pride, by whatever means, is a sure way to develop ENTERPRISE.

## CONCLUSION

As postulated earlier, human nature changes little. Mastery of tactics and technique requires an understanding of contemporary developments. Technical advances today are of such proportion that we tend to overlook the instrument which will direct the weapons they have produced. However, as the directing element, man remains the fundamental unit of an army. And, the direction and use of the weapons at his disposal are conditioned by his state of mind, his will, his MORALE.

This indispensable state of mind for which we strive is a function of temperamental variables which respond, in large measure, to impulses of the heart. Marshal Saxe, stern warrior that he was, realized this when he said: "Without a knowledge of the human heart, one is dependent on the favor of fortune, which is sometimes very inconstant."

It is our function as leaders to supply the spark, to insure the morale, by cultivating in our men the qualities we have considered above. Their presence in a command is proof of effective leadership.



"We have only considered leadership by the officers; but what of the noncommissioned officers? The answer is simple. Good officers will produce good N. C. O's just as good officers and N. C. O's will produce good men."—*Suggestions for Unit Training* by MAJOR M. P. HUTHWAITE, British Army.



# Editorial Comment



The Axis signatories will rue the day that Hitler called the world "to arms!"

## TOTAL WAR

**T*****TOTAL WAR** is ghastly!* We and our Allies are now confronted by a sinister, unethical enemy coalition whose Nazi-Fascist-Jap imbued methods of waging warfare are particularly contemptible, repugnant and repulsive to our civilized minds.

The Axis gangster nations have replaced the international *Rules of Land Warfare* by total despicable **RUTHLESSNESS**, under the guise of military audacity and sagacity.

The United States was still pleading for peace in patience and good faith, still offering Japan honorable friendship when the Tokio government, making plans for a surprise attack upon an unsuspecting friendly populace, struck without warning. It in-

dubitably was premeditated! *Thus, the treachery was complete.*

In total war we fortunately know what to anticipate. Since this war apparently is to be total *we* also know how to wage it. If we must accept the *gauntlet*, we can! It includes the effective employment of every known weapon, sabotage, and subterfuge. Thus far, the use of lethal gas by our enemy has been the only exception—probably through fear of retribution. Yet, unfortunately, its employment still is within the realm of possibility. Its main value obviously is in surprise action. Training in anti-gas measures, therefore, must be stressed continually—for animals as well as for personnel, both military and non-military—and also in its offensive utilization.



We must *always be alert* and remember that when our totalitarian, barbaric enemies realize that ultimate defeat is inevitable they will resort to *any means* to further their despotic objective. We wisely should acquire a *total war perspective*.

Total war, as we understand it, implies the force of arms, strife, mass-starvation, brutality and national hostility in every detail.

*We shall not forget!! We cannot forget!!*

### OBJECTIVE NOW CLEAR

We and our allies now have but one objective—*Victory!*

There must be no distracting or disconcerting influence. Unmercifully, our concerted prosecution of titanic global war must be directed toward the assured total destruction of the infamous *Axis alliance* and all that it implies—the global intent of the scourge personified by the Axis signatories.

In the American Revolutionary War we fought for *national birth*. In our Civil War we fought for *national unity*. We, now, are righteously fighting for *national existence*.

We have the resources to win. We have the just cause, and in that might and in that right we have such national unity as never before in our history. There is no place now for complacency. We must be *tough!* The Japanese attack on Hawaii united America in a common horror and in a common resolve—a unity as grim and complete as if Japan had struck individually at 130,000,000 Americans. In our cause the Western nations rightfully have rallied.

We must fight with everything we have. It will not be easy. But the greater our concentration and the greater our sacrifice, the sooner the victory.

Mr. Hitler's infamous major technique, compounded of evil and now aped by the dastardly Japs, is to spread terror among troops and civilians. Bombs are supposed to shatter nerves even more than buildings. Fear and confusion, caused by rumors of raids that are exaggerated or imaginary, destroy even more—*morale*. But we are unafraid! *Our morale will not falter!*

So, let's get on with the job of winning this war—the long job, the hard job, the sober job, the fighting job, the dirty job, the deadly calm job of winning *this war*. To this we are dedicated full-time, *all-out!*

*Our training objective is now clear!*

### OUR CAVALRY

WAR has found our cavalry ready for *any* eventuality. Better trained, better armed, better equipped, better mounted than ever before, with a higher standard of officers and men, our cavalry now *champs at the bit*.

Our 1941 development established a sound basis for the 1942 wide expansion of our cavalry, which

now is urgently necessary. Under the practical guidance of our Chief of Cavalry we have proceeded on the basic idea that a military team, in order to be effective, must first be efficient in fundamental basic training and in perfected organization; beginning with the individuals and the smallest units. In our Cavalry School and Cavalry Replacement Training Center as well as in all cavalry units these ideas have been stressed with confidence and professional understanding.

It is only too apparent that roads in this war will be very unhealthy places for road-bound vehicles. Cavalry, therefore, has specialized in marching and maneuvering across country over all types of terrain, in dispersed formations. They seemingly scatter and are out of hand, but actually they are dispersed, *in order*, and are under control. In this manner they do not provide profitable targets for enemy combat aircraft. The *airplane-tank-horse* team holds inestimable possibilities of accomplishment—and this *should be exploited!*

From the meager information received of the great Russian cavalry action in the Donets area of Russia in the defeat and pursuit of German armored and infantry divisions, we have been provided with ample factual evidence that horse cavalry still is an essential factor in modern warfare. Thus, our new cavalry with traditional high *esprit de corps* faces the enemy with eager confidence in its ability to perform appropriate cavalry missions.

### Speed?

Just because an automobile can travel at the rate of 80 miles per hour on a level highway does not necessarily mean that it ever is expected to travel at that rate. It does however, indicate *power*—a reserve of power for quick pickup, for hill-climbing and for *maneuver*.

Battles cannot be won solely by racing armored and motorized divisions down highways as frequently is the case in artificial maneuvers. From the initial flash reports of the Battle of France, motor enthusiasts formed a snap opinion to which many have stubbornly clung. They should now admit at least a qualified disillusionment. They pictured the German armored divisions speeding across country at 40 or 50 miles per hour under the shield of a swarm of combat planes. The true facts as we now have them indicate that even in the conquest of France the German advance against little opposition averaged only 10 miles a day. Moreover, in those areas of Russia where the terrain was favorable to tank operations the German advance averaged about 2 miles per day. The Panzer Divisions failed to reach Moscow and Leningrad because they were prevented by the Russian *well balanced* army.

Marshall Semeon M. Budenny, former cavalry sergeant in the Czarist army and leader of the famous Red



raiders in the Russian Civil War, strongly supported by Marshal Vassili C. Bluecher, Commander in Chief of the Far Eastern forces, insisted on maintaining strong *mounted* forces—approximately 400,000, mainly Cossacks in the army even after the general reform of 1925 and the “purge” of 1936. They remembered that some 600 years ago the Mongolian General Batu’s army in a *blitz* advance into Central Europe made more than 160 miles in three days on horseback.

We know now that Russian strategy held its cavalry in reserve until the Panzer attack was spent and then sent them in to harass the enemy rear and supply lines—for which task they were thoroughly trained. “A Russian cavalry unit in action is like an amazing precision machine; and not only the regular army but even the organized guerrillas have cavalry of their own, directing the actions of the walking troops and harassing the rear guards of the enemy.” *They obviously were not road-bound.* Their cross-country maneuverability was decisive!

Fortunately, our own Army High Command did not fall for the flash first impression about the Battle of France. Reliance was placed on the analysis of expert reports. *Speed* is a liability, not an asset when it carries elements of the combat team out of reach of their supporting units.

Armored divisions of high skill are indispensable in modern warfare, but they cannot perform miracles. The coordinated combined efforts of all arms and services are necessary to win wars.

### Horse Power

The CAVALRY JOURNAL continues its persistent efforts in assisting military and civil agencies to fully appreciate the value of horses in war—both militarily and commercially. This in no sense should be interpreted as a depreciation of the motor. In war the horse and motor complement each other. Both are necessary.

In the combat area cavalrymen know that horses, due to terrain and climatic conditions, can go places prohibitive to motor powered machines. We must therefore activate our individual efforts to impress on others the vital necessity of immediately increasing our horse cavalry while we yet may have time. The notable exploits of Russian cavalry is the *handwriting on the wall*.

It is pure folly to underestimate the enemy’s ability to attack the mainland, as there are numerous areas along our vast coastal frontiers where a toe-hold landing might be attempted—areas without a suitable road-network for coastal defense. The proper position of mechanization in our army is now assured. So we must therefore undo some of the sales propaganda that has been spread by the motor industry. Moreover, motor vehicles, rubber, fuel and other critical supplies are certain to be rigidly rationed. Animal transportation will be equally vital to governmental and commercial activities. The United States is rich in horse and mule strength. It

should be exploited at once. We must take the *long term view*! The return of the “horse and buggy days” is not now remote. The necessity for economy in machine power already has arrived. The small farmer and many commercial concerns will be almost completely dependent on draft horse and mule power. The light horse business, also proportionately, is bound to increase. The promulgation of information to effect this realization is imperative. Now is the time for our horse and mule and related agencies, such as vehicles and harness accessories to plan for the immediate future—the wartime utilization of horses and mules alike by our governmental and commercial establishments.

### Censorship

*We are at war!* The question which we naturally ask now is, “What about censorship?”

The average man on the street usually will tell more than he knows. It is a national characteristic! The less he knows, the more he will tell—about military and naval strategy, tactics, politics; *any subject*. One can have a voluble seemingly authentic discourse merely for the listening. Many Americans like to appear to be “in the know.” This weakness, however, may prove to be our strength. Foreigners have been furnished so much critical data relative to our National Defense *secrets* that it is now impossible for them, we hope, to differentiate between fact and fiction.

From now on, however, the case assumes new aspects. There are two kinds of censorship—formal and voluntary. Formal censorship is that imposed by governmental officials and regulations. President Roosevelt, discussing censorship for the duration of the war, placed most of the emphasis on voluntary censorship. There need be but two rules, he stated. First, news must be accurate. That needs only to be said; it applies in peace time as well as in war. The second rule, is that news *must not give aid and comfort* to the enemy.

There is no doubt about the meaning of the term *aid*, but comfort is an elastic word. Any public criticism of our own government, or of particular officials or of our war effort, etc., would give comfort to the enemy—without necessarily giving military aid. We should be sure of our facts and avoid the spread of depreciatory rumors and whispering propaganda. True information is an antidote and preventative of false rumor. When facts are verified the government will officially publish them just as it did *after investigation* when Hawaii was attacked.

Formal censorship obviously should not be merely a perfunctory compliance with regulations. We should assume that “fifth column” ears and eyes are anywhere—EVERYWHERE! The same is true of voluntary censorship, only *more so*. For mutual and national safety we should lean over backwards in our effort to apply *voluntary censorship* and assist civilians in appreciating the necessity for such action.



### Average Prices Paid for Army Horses and Mules Fiscal Year 1941

Animals	Average Price
Horses, riding .....	\$161.96
Horses, riding, light .....	98.54
Horses, light draft .....	162.50
Mules, draft .....	207.69
Mules, pack and riding .....	183.77

### APO Address

Recently, nearly all of our 5,000 addressograph plates have been re-cut in an effort to keep abreast of the numerous changes in address and rank.

There will be no difficulty about The CAVALRY JOURNAL reaching you if your APO address is furnished us. Please, therefore, use the *Change of Address* cards enclosed with each issue to keep us informed as to correct rank and APO number and address.

### Association Office Moves

The building formerly occupied by the Office of The CAVALRY JOURNAL and U. S. Cavalry Association was condemned by the government to clear the site for the newly-projected State Department Annex building. On January 5, 1942, therefore, The CAVALRY JOURNAL and U. S. Cavalry Association moved to its present location—1719 K Street, N.W., to which all future communications for us should be addressed.

### 100% Officer Membership

- 3d Cavalry, Colonel H. M. Estes, Commanding.
- 4th Cavalry (H-Mecz), Colonel Joseph M. Tully, Commanding.
- 6th Cavalry (H-Mecz), Colonel John A. Considine, Commanding.
- 8th Cavalry, Colonel Charles S. Kilburn, Commanding.
- 102d Cavalry (H-Mecz), Colonel D. W. McGowan, Commanding.
- 113th Cavalry (H-Mecz), Colonel Maxwell A. O'Brien, Commanding (since promoted to Brigadier General).
- 82d Reconnaissance Bn., Lieutenant Colonel I. D. White, Commanding.
- 1st Cavalry Troop Rcn. (Sep.), Captain W. V. Martz, Commanding.
- 2d Reconnaissance Tr., Captain Anthony F. Kleitz, Commanding.
- 3d Reconnaissance Tr., Major Harry W. Miller, Commanding.

### Editorial Policy

The wartime editorial policy of The CAVALRY JOURNAL, in substance, is stated on Page 1. The CAVALRY JOURNAL is a professional magazine. It is not in any sense in competition with the press. Our deadline date usually is four weeks prior to our date of publication. Our sole objective is to promote the professional improvement of the members of the U. S. Cavalry Association; to preserve and foster the spirit, the traditions and the solidarity of the Cavalry of the Army of the United States. The articles appearing in this journal represent the personal views of the author and are published to stimulate interest in, provoke thought on, and provide a free forum for the decorous discussion of cavalry affairs—insofar as they *do not furnish aid or comfort to our enemy*.

From a professional standpoint, therefore, it is well to remember that factual information relative to current combat operations rarely is immediately available. To be of professional value, considerable time necessarily must elapse before detailed information can be assembled and evaluated.

The CAVALRY JOURNAL will continue to publish authoritative information of importance and value to cavalrymen that ethically can be published, along with all obtainable pertinent data pertaining to enemy cavalry and related arms and services.

Military information relative to our allies which is not immediately available to the Axis armies obviously must be withheld.

Future issues of this magazine will constitute a file of source material of professional value elsewhere unavailable and, therefore, should be perused by members of other arms and services as well as by cavalrymen.

### Editor's Mail

#### More About Guidons

EDITOR, THE CAVALRY JOURNAL:

In a recent issue of The CAVALRY JOURNAL, the question was asked as to why the Cavalry guidon is red and white, rather than the branch color as in other branches. This I do not believe was satisfactorily answered.

When the guidon was first adopted, St. George was the patron saint of Cavalry, as well as of England, and his colors, red and white, were adopted; although at this time the piping of Cavalry and dragoons was yellow and orange respectively.

Very truly yours,

H. L. CONNER, JR.,  
1st Lieutenant, 8th Cavalry.

4538 Trowbridge Street,  
El Paso, Texas.



### Annual Meeting

In accordance with the call of the President of the United States Cavalry Association, the fifty-third annual meeting of the association was held at the Army and Navy Club, Washington, D. C., at 8:00 PM, January 12, 1942.

A quorum was present, in person or by written proxy, for the transaction of business.

The Secretary-Treasurer presented and read his previously audited annual report and financial statement, which was duly approved. The report indicated that the affairs of the Association are in excellent condition.

The Secretary reported that the past year has seen the greatest increase in Association memberships on record. From 2,999 members the first of the year the enrollment has grown to 4,782 on December 31st, a net gain of 1,783 members. The number of members now exceeds the total number of cavalry officers of all components now on active duty; however, there are still approximately 800 cavalry officers who are not members of the association, of which number about half are serving with the Armored Force. A mailing list of all nonmember cavalry officers is kept up to date, and monthly letters are forwarded with a view to further increasing the membership.

During the year 477 members were dropped from the rolls either by request or for nonpayment of dues. Collection of dues, however, on the whole, has been very successful. It is believed that this has been due largely to persistent monthly billing. Experience shows that regardless of the number of statements mailed each month, there is a return in receipts of about 50% of the total amount billed.

The cost of production of *The JOURNAL* has been increasing rapidly in the last few months, and there is every indication of further increase of expense. Paper, printing, pictures, engraving, mailing envelopes—all

cost more than last year; and with the increased membership there has been a corresponding increase in the quantity of all supplies, postage, etc.

The net profit derived from sale of books by the Association during 1941 again exceeded any previous year. It is believed that inasmuch as this profit covers office clerical overhead, the Association is operating on sound principles, thus allowing income from membership dues to be utilized almost solely for publication of *The CAVALRY JOURNAL*.

After the Secretary's report the next order of business was the election of officers for the ensuing year.

The following were elected:

President: Major General John K. Herr, Chief of Cavalry.

Vice-President: Brigadier General Hamilton S. Hawkins, U.S.A.

Secretary-Treasurer: Colonel Fenton S. Jacobs, Cavalry.

Executive Council: Brigadier General Maxwell A. O'Brien; Colonel William W. Gordon, Cavalry; Colonel James T. Duke, Cavalry; Colonel Wayland B. Augur (Cav), GSC, GHQ; Colonel H. E. Eastwood (Cav), GSC; Colonel D. W. McGowan, 102d Cavalry; Lt. Colonel Verne D. Mudge (Cav), GSC; Lt. Colonel Homer E. Carrico, 311th Cavalry; Lt. Colonel Herbert H. Frost (Cav), 2d Armored Division.

Following the showing of a motion picture illustrating U. S. cavalry operations the order of business enthusiastically turned to the affairs and interests of the Cavalry Association with remarks by the Chief of Cavalry.

The Executive Council appointed Colonel Fenton S. Jacobs, Cavalry, Editor of *The CAVALRY JOURNAL* for the calendar year, 1942, or until relieved during the ensuing year.

The meeting then adjourned and refreshments were served.



### With All Your Might

. . . To fight out a war, you must believe something and want something with all your might. So must you do to carry anything else to an end worth reaching. More than that, you must be willing to commit yourself to a course, perhaps a long and hard one, without being able to foresee exactly where you will come out. All that is required of you is that you should go somewhither as hard as ever you can. The rest belongs to fate. One may fall—at the beginning of the charge or at the top of the earthworks; but in no other way can he reach the rewards of victory. . . .—JUSTICE OLIVER WENDELL HOLMES.





# Enlisted Communication Courses At the Cavalry School

*By Lieutenant Thomas R. Warner, Cavalry*

**T**HE ultimate purpose of all military training is the assurance of victory in the event of war." (FM 21-5, Military Training.)

Victory in these days of blitz techniques and gas engines hinges on effective communication within all units, large and small. It is the aim of the communication courses at The Cavalry School to provide our Cavalry Regiments and Reconnaissance Troops with trained communication personnel capable of making these units the most effective in any army. In this article is a description of the course itself, suggestions for the selection of students by unit commanders and recommendations for the most effective use of the graduate upon his return to his organization.

The present emergency has, of necessity, shortened the length of time available for instruction. A course which could easily be spread over nine months without materially increasing the scope of instructional material, has been compressed into a twelve-week period; however, it is not a condensation or adoption from any other. It is a practical course, teaching the cavalryman's solution to cavalry communication problems. The entire course is based on the applicatory system of instruction and only the minimum time necessary devoted to lectures and conferences on "how or why" to do a par-

ticular job. Work is kept as practical as is possible with regard to the subject and the students are actually "doing" the job themselves in most cases.

The first four weeks is devoted to basic communication instruction. Code practice begins the first day and the student receives one hundred thirty-four hours code practice in addition to any radio operation he may perform in connection with other classes. The objective is to reach a minimum operating speed of at least fifteen words per minute upon graduation. Eleven hours are devoted to conferences on safeguarding military information, organization of communication within the Army and various types of Cavalry units, message writing, messenger training and use, and the operation of panels and other specialized signalling devices and map reading. A special short course in message centers and cryptography embraces both conferences and practical work in all message center operations. Message centers typical of Cavalry units are stressed. The student receives training in the use of all codes, and the cipher device as well as practical instruction in work as message-center chief, code clerk and messenger. Simplification of message-center procedure and forms is stressed wherever possible. The student also receives a brief introduction to radio procedure during this initial four weeks.

In the second phase of four weeks' instruction the student receives a thirty-hour course in electricity and magnetism and basic principles of radio, thirty-six hours of radio procedure and practical field exercises. The objective of the electricity and magnetism course is to furnish the student with a background sufficient that he will understand the "how and why" of the operation of his radio and associated electrical equipment. The procedure course is divided between conferences, practical work on code tables and work sheets submitted by the student and its objective is to turn out qualified field radio operators.

Fifty hours, divided between the second and third phases are spent on radio sets and equipment. Here the student learns the actual construction and makeup of the various sets used by cavalry troops. He learns nomenclature, operation and functioning of the component parts of all receivers and transmitters. Considerable time is devoted to learning how to get his set operating properly and to keep it operating properly on the air.

During the final four week phase a limited number of the outstanding students, about twenty in number, are selected for advance instruction. These courses include advanced radio theory, radio shop work and main-



Over one-third of the entire course is spent in practical field operation of cavalry radio equipment.



tenance. They are devoted to "trouble shooting" on cavalry communication equipment construction of simple transmitters and receivers and the proper use of shop tools. The entire class receives coaching for the Federal Communication Commission examination for amateur licenses and a Class C examination is held for each class with about half the class receiving licenses.

In the second four weeks' period the student spends the entire afternoon each day in the field and during the final phase spends every morning in the field actually operating cavalry radio equipment under field conditions. All work is practical and the student is checked both on his technical proficiency in operating the equipment and his ability to use proper operating procedures. The students handle all classes of messages and operate all types of tactical radio nets during this time. The major portion of every fourth week a total of approximately one hundred hours is devoted to command post exercises. During the first phase CPX's the student functions as messenger, code clerk, panel operator and message center specialist. During the second group he advances to duty as junior log and key operator. In the final phase he may act as message center chief, communication chief, radio section chief, senior operator or assistant instructor. This final series of CPX's is the "graduation ride"; students are familiar by this time with the technique and various requirements of the problem and are able to carry much of the responsibility. On return to their organizations they are prepared to assist their unit commanders in the preparation and conducting of similar exercises.

The soldier selected for this course should have an AGO aptitude rating of not less than 110-II-87. This rating is the result of tests given at the Induction Center or by the recruiting officer and is found on the soldier's Form No. 20. He should also be at least a grammar school and preferably a high school graduate, able to read, write and speak fluently, and able to perform basic operations of arithmetic including decimals and fractions. In addition he should have demonstrated a keen interest in radio, be able to receive code at a speed of at least five words per minute and should have attained this code facility in 45 hours or less, of instruction. Above all, he should be instructor or assistant instructor material, a prospective set or section chief if the full fruits of his instructions are to be obtained.

The graduates from this course on returning to their organizations should by all means be continued for a time at least, in communication work. The ratio of students authorized for this course to communications specialists required in the cavalry is very low. Therefore, these men should be used as instructors and technical leaders on their return. They will be good code instructors. Their procedure will be accurate and their knowledge of simple tests and checks, disseminated throughout the unit, will eliminate most set trouble. Probably most important of all, their enthusiasm and spirit, nurtured with a few old parts and tools, a place to work, and a little interest or friendly cooperation by the unit commander, will build an esprit and "will to communicate" that bad luck, bad weather and even bad orders cannot overcome.



The war in Russia involves a complexity and multiplicity of individual battles fought under conditions wherein individual commanders must operate on their own initiative. Unless complete chaos is to result, the high command must exercise some sort of control. The Germans accomplish this through the lavish use of radio combined with highly trained motorcycle messengers. Here, in the Ukraine wheat fields, we see a German short wave radio station receiving orders from the higher command echelon, with motorcyclists waiting to distribute them to the lower units. This is an important feature of the *Wedge and Kessel* pattern.



# General Hawkins' Notes

SINCE the last writing of these Notes for the last number of *The Cavalry Journal*, the storms of war have descended upon us. In these circumstances I have looked backward over the Notes I have written for *The Cavalry Journal* during the last five years, and I find nothing that has been emphasized concerning tactical principles or the great need for larger cavalry forces that I would change on account of the developments brought about in this war to date.

The gallant defense of the island of Luzon by General MacArthur's forces, which has stirred the hearts of us all, has brought back to mind vividly the scenes in that country of more than forty years ago when we campaigned through those valleys, mountains and coast lines, traversing the swamps and swimming the rivers.

Visualizing those scenes, one cannot but be impressed with the value that a large force of modern cavalry would have now—December, 1941—in that country. Able to go anywhere and in almost any direction over Philippine terrain as was demonstrated in 1899—a large force of cavalry, now equipped with its powerful fire action, including .50 cal. machine guns, mortars, and 37-mm. cannon all in pack, could perform services that no other arm could undertake. In a situation like that now in the Philippines we need every arm of the service. We are lacking particularly in air force, armored force and cavalry. These three branches have different functions. All are necessary. The main force of infantry is of course the main reliance, and, it appears, we need much more of it than we have.

It is irritating to the professional soldier to hear the broadcasters and the press commentators say that what we need only is air force. Of course we need air force; the more, the better! But what we need in modern war is every branch of the service, not only one or two of them. Among these branches we need cavalry, and lots of it.

And so, in the Philippine campaign we could use, in addition to other branches, large forces of cavalry. Motorized infantry is very useful in defending coast lines, but such troops have their limitations. Speeding along the coastal roads, they can arrive at the scene of action first of any ground troops, but they must detruck to fight; and along the coastal roads of Luzon it is difficult to get the empty trucks off the road to hide them from enemy fire and bombing. If bridges, crossing many streams running into the sea, are bombed behind or before these motorized troops they are trapped. While traveling along those open roads they may be bombed by enemy aircraft. They find it difficult to fight and get

away, if such tactics are necessary. Useful and necessary as they are, their limitations are serious. Cavalry has its limitations also, but they are not the same as those of other branches.

Cavalry is not bound to roads. It could conceal its horses in the wooded mountain slopes. It need not suffer so much from bombing along the roads. It can fight to defend the beaches, and, if unable to hold the enemy off, it can get away in any direction and come back in another spot to fight again. In the meantime, infantry and artillery can be brought up to supplement the cavalry and, each in its own rôle, may combine to defeat the enemy. Air Force is used in combination with the ground troops. It may be the decisive feature. Again, it may not. It may be neutralized by enemy air force, or it may be beaten. Armored force too, in certain situations, may be the decisive factor. On the other hand, it may not be able to get forward or to use the particular ground. It is ridiculous to rely wholly on any one branch of the service; and still more is it ridiculous to rule out or discard any one branch such as the cavalry.

In the broad valley of Luzon there is a varied terrain—difficult rivers, dry, firm ground in the rice paddies in the dry season, wet spongy ground in the rice fields during the wet season, swamps of considerable size and many wooded mountains. None of these conditions stopped our cavalry forty years ago, but they stopped all other troops. Similar conditions might prevail anywhere else—on this continent, in other large islands, or other parts of the earth.

The power of air force over the sea has been given startling demonstrations recently. Its power in land operations is also tremendous. But the war in Russia should show all laymen as well as soldiers that we must not put all our eggs in one basket. Notwithstanding the recognized power of air force, it has taken millions of infantry, artillery, cavalry, armored forces and antitank forces, engineers, signal troops and supply troops—all working on the ground—to stop the great German attacks made by similar troops.

I have been pleading for years for large forces of cavalry in our army in order to fill out and complete our ground armies. This necessity was belatedly recognized in the last part of the war in Spain. According to the news despatches, Russia seems to have recognized it. France and England failed to recognize it in 1940. Germany failed to recognize it because she did not have to, having beaten her unprepared enemies with overwhelming forces that had little opposition. Perhaps she is realizing her mistake now. Large forces of cavalry might have kept up her élan when her tanks bogged down or were met by competent antitank forces in the hands of her Russian opponents. Large forces of Ger-



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## GENERAL HAWKINS' NOTES

man cavalry of the modern variety might have spelled the difference between her present frustration and complete victory before the great winter set in. Not only at the front but also guarding her long line of communications, a numerous cavalry was indispensable.

An article in the last CAVALRY JOURNAL, by Major R. L. Howze, shows how cavalry might have helped the English to defend the island of Crete. Of course, it was not to have been expected under the circumstances that any cavalry should have been there. In the first place, England has neglected to keep any cavalry in her army ready for any possible use. You cannot have cavalry where it is needed if you have no cavalry. It would have been easier, however, for us to foresee that we should need cavalry in the Philippines. The one cavalry regiment there has apparently done splendid service.

Without going into the question of what might have been foreseen in the Philippines, there may yet be time here at home to increase our cavalry forces to somewhere near their proper size if we commence at once. When they are needed they cannot be improvised. So much remains to be done to complete our army that no one can blame the authorities for doing only a few things at a time, but cavalry is not one of the things that should be deferred.

Some persons claim that it is difficult to ship cavalry overseas. It was not any more difficult to ship cavalry to the Philippines in 1899 and 1900, once the need for it was appreciated, than it is now to ship armored forces. Even the Japanese, with their many theaters of operations, and their lack of much cavalry experience, are said to be shipping cavalry to the Philippines. Evidently they appreciate the need for everything.

Very few of the thousands of officers in our army have more than an elementary knowledge of branches of the service other than their own. In time of peace

we have attempted to remedy this defect by instruction in our service schools. But as far as cavalry is concerned, it must be acknowledged that this has met with only mediocre success. Thus, the cavalry has not been well understood by the great mass of our officers. The fault, to some extent, may lie with the cavalry itself. It is difficult to say. But there are some factors which can be recognized as partly responsible. A great many of our finest cavalry officers were transferred to the Armored Force under the name of "Mechanized Cavalry." In my opinion, there is no such thing as mechanized cavalry. Cavalry is cavalry, with here and there a few mechanized elements, the personnel of which is composed for obvious reasons of cavalrymen, but primarily a cavalry unit is composed of horsemen. Those cavalrymen who have been transferred to the Armored Forces are no longer cavalrymen, no matter how they are carried on the army lists. The loss of these cavalrymen is a severe blow to the cavalry and to the army. What real cavalrymen are left are too few to spread the knowledge throughout the service of what our modern cavalry is. Instead of increasing our cavalry we have seriously diminished it.

The Russians have from thirty to fifty divisions of cavalry and are making good use of them. No one but a real cavalryman knows exactly how they are doing this. I have already given an inkling of what cavalry might have done in the Philippines, but the limitations of this paper will not permit many details of modern cavalry action. One can get a little idea when he reads of Russian cavalry cutting off German infantry battalions from their main bodies, especially motorized infantry; or the flank attacks upon mechanized units resulting in delay or crippling or destruction of such units.

There is yet time to increase our cavalry materially. Perhaps it will be done.



## Exploitation

"I say, then, that when you have gained a victory, you ought by all means to pursue it, and to imitate Julius Cæsar rather than Hannibal in that respect; the latter of whom lost the empire of the world by trifling away his time at Capua, after he had routed the Romans at the battle of Cannæ. Cæsar, on the other hand, never rested after the victory, but always pursued and harassed the enemy after they were broken and flying, with greater vigor and fury than he attacked them at first."

—*The Art of War*, Page 162, Book 4, Machiavelli.



# The "Battle of Bridges"\*

LIEUTENANT GENERAL McNAIR, Director of the Second-Third Army Maneuvers, named the latter phase of the 1941 Louisiana maneuvers the "Battle of Bridges." Every movement of this phase had entailed the blowing of bridges or construction of pontoons. Every strategic move hinged upon the Red or the Sabine river. No little part was played by the Second Cavalry Division in this bridge warfare. Their zone of action first on the Red and later on the Sabine put them in direct position to make the most of the bridges (or absence of bridges) as the Division withdrew toward Shreveport.

The nature of the enemy opposing the Second Cavalry Division during this phase, First Armored Corps less the 1st Armored Division, the 2nd Infantry Division, and the First Cavalry Division with the 56th Cavalry Brigade attached, made the absence of a bridge of vital importance; importance that meant days of time and thousands of gallons of fuel. The blowing of the Bon Weir bridge caused the Second Armored Division a trip of 350 miles; captured quartermaster records show a great quantity of fuel purchased from local dealers with cash, to make this move.

Of the many missions calling for skill and daring, perhaps the most outstanding was the one that called for the blowing of the Burr Ferry and Bon Weir bridges on the nights, September 23rd and 24th. The Division Commander, Major General John Millikin had decided that these bridges must be blown if the strong offensive of the Third Army with the First Armored Corps was to be held up.

Both bridges were deep inside enemy lines; approach by road with the necessary amount of TNT was impossible; air attack would not insure complete destruction by umpire rating. The only certain way to put them out was the perilous river trip that General Millikin decided upon. Major Harry O. Paxson, his division

engineer, assured the General he had an outfit that could do the job.

Major Paxson assigned to Captain Charles M. McAfee, Jr., and Troop A, Ninth Engineers, the difficult mission. The mission was of such a nature that Captain McAfee was forced to pick a crew in which each member was adept at demolition work and also qualified to handle an assault boat in the river. His choice was First Sergeant Stillwagon, Sergeants Allen and Kelly, Corporal Patterson and Privates Dockter and Smith. Equipped with two assault boats, one outboard motor, 600 blocks of TNT, one case of Type "C" rations, field equipment, and armed with pistols, the detail was loaded on a one-half ton truck and ponton trailer and transported to the Sabine River east of Toledo, Texas.

At 12:30 PM after all arrangements were thoroughly checked, the detail left their launching spot, the motor boat towing the rear assault boat. The original plan called for both boats to proceed to the Burr Ferry bridge and prepare it for demolition, with Sergeant Kelly, Corporal Patterson and Private Dockter to "blow" it at the zero hour. However, plans, no matter how carefully laid, oftentimes break down under adverse conditions. Such was the case in the early morning hours of Wednesday, September 24th, when the leading boat hit a snag, puncturing a hole in the bottom of the boat. It was a cold, miserable group that shivered around the smudge fire they managed to build at 4 AM that day, far from their destination and the chances of completion of any part of their mission growing dim.

At 6:30 AM, with the rain pouring from a low overcast sky that made aerial observation improbable, Captain McAfee ordered Sergeants Kelly and Allen, and Privates Dockter and Smith to move onto Burr Ferry where the two men were to remain to prepare the bridge for demolition and the other two would return to pick up the rest of the crew. Soon after their departure, Captain McAfee with the help of Sergeant Stillwagon, assembled a makeshift patch that succeeded in keeping his boat afloat. Starting downstream at once they soon made contact with the boat returning to pick them up. At 12:30 PM, they reached the Burr Ferry bridge and Captain McAfee, after checking the charges, ordered Sergeant Kelly and Private Dockter to remain behind and blow the bridge at the appointed time. Corporal Patterson was left to act as Engineer Umpire. The Burr Ferry bridge, left unguarded by the enemy, was a simple matter to charge and later destroy.

About 1:00 PM, Captain McAfee, and the remainder of the detail started for the Bon Weir bridge and after almost eleven hours of continuous travelling, under what might be called story book conditions, in that they were going into the teeth of a tropical hurricane, four thoroughly drenched engineers grounded their

\*By Public Relations Section, Hq. 2d Cav. Div.





boat fifty yards upstream from the Bon Weir bridge.

In order to take stock of the situation Captain McAfee, Sergeants Stillwagon and Allen crawled through the heavy brush, along the bank, to a point near the base of the bridge. Here at Bon Weir the bridge was guarded and enemy traffic was crossing continuously—it was not going to be an easy matter to destroy this vital link between Louisiana and Texas. At this juncture, Sergeant Stillwagon was sent ahead as a scout, and after making an estimate of the situation, circled the lone guard on the east end of the bridge and walking boldly up to him, drew his pistol, saying, "Don't say a word, you're my prisoner."

Now, things began to happen at an increasingly fast pace. The guard was turned over to Captain McAfee for questioning. Sergeant Stillwagon ran back to the boat for TNT—by the time he returned (and it was just a few minutes) Captain McAfee had captured two more Blue soldiers who wandered down to the river bank. Now came the important job of placing the charges on the bridge itself and in plain sight of the continual Blue traffic.

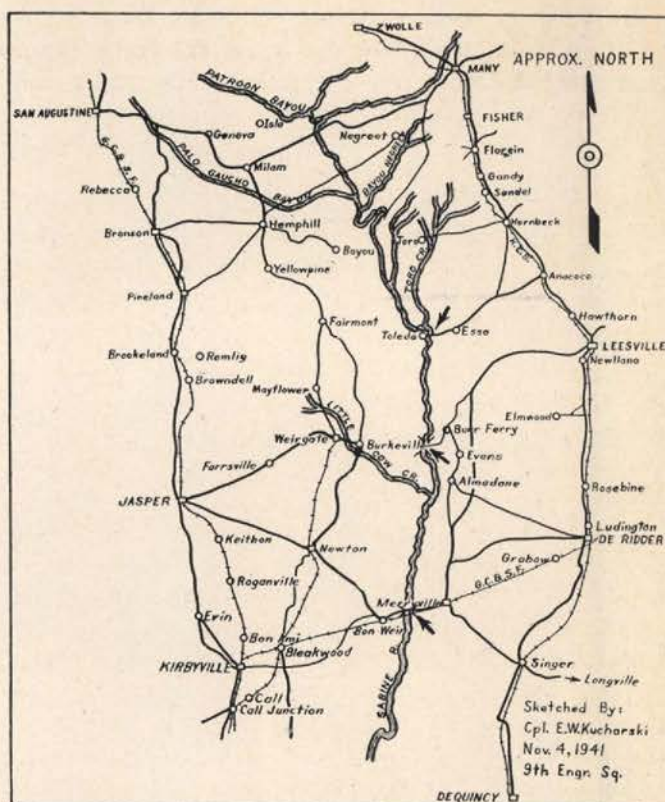
Almost at once, Sergeant Stillwagon, loaded down with TNT, made ready to lay the charges. Taking advantage of the total darkness and the ever-present mist, Sergeant Stillwagon worked his way one-third of the distance across the 700-foot span, when he noticed a light, flicking on and off, coming toward the east end of the bridge. Returning to Captain McAfee, he reported what he had seen and the two of them went forward to meet the person carrying the light. Just as they were about to come within range of the light's beams, Captain McAfee drew his pistol and said, "You are my prisoner."

"Why capture me? I'm a Blue, too," jested a young lieutenant, officer of the guard, who was carrying the lantern.

Even then he did not realize he was talking to a member of the opposing forces and Captain McAfee said, "Well, I am not—I am a Red. As an officer, you know the rules of warfare. In accordance with those rules you are my prisoner and are not allowed to try and escape."

Leaving Private Smith to guard the prisoners, Sergeant Stillwagon, with Sergeant Allen preparing the charges, completed the demolition work on the entire bridge in one hour and five minutes. Captain McAfee during this hour stood at the end of the bridge, acting the part of bridge guard, Blue Army. At 2:30 AM on Thursday, September 25th, the bridge was completely charged and ready to be blown. (See Par. 25 GHQ, Umpire Manual for requirements.)

The mission a success, Captain McAfee and Sergeant Stillwagon decided to capture a Blue vehicle, dash through the Blue lines and report to the Headquarters of the Second Cavalry Division. They chose the last truck in a convoy passing over the bridge and, before leaving, instructed Sergeant Allen to set the charge off



after their truck was across the bridge. A moment later the bridge was destroyed. Almost immediately traffic was halted and high-ranking officers of the Blue Army arrived on the scene wanting to know what was holding up their advance. An engineer umpire, First Lieutenant Gibbs, Company C, 110th Engineers, was present to verify the authenticity of the demolition. The Assistant to the Army Engineer personally inspected the bridge charges and questioned Sergeant Allen on all phases of the mission. Although the officials of the Blue Army were loath to admit that the enemy had blown two important bridges under their very noses, they had to abide by the rules and by late afternoon were ferrying their rations across the Sabine River in assault boats.

Unluckily for Captain McAfee and Sergeant Stillwagon, the captured vehicle proved to be a meat and ice truck. Rather than have the food go astray, Captain McAfee allowed the truck to go on its way in Newton, Texas, warning the driver to keep quiet. Instead, he drove about two blocks and started shouting, "Two Reds are in town." In a few minutes the town, packed with Blues, was a beehive of activity.

After hiding in houses, jumping fences, running through alleys, the Reds stumbled on a lieutenant sitting in a ½-ton reconnaissance car directing solo motorcyclists in the search. Before the young officer knew what was up, Captain McAfee had him covered with his pistol and once again it was, "You are my prisoner." The officer objected to the capture and in keeping with the rules of the war games, Captain McAfee administered the "coup de grace," as it were.

At this point, Captain McAfee, Sergeant Stillwagon



and the captured lieutenant made off in the Blue "peep" for the Red lines. Before long they came to a bridge blown by the Red forces. After abandoning their captured "peep," and walking a few miles into Red territory, they decided to take a well-earned rest—their first "cat nap" in almost three days.

They awoke at 8:30 AM, Thursday, September 25th, caught a ride on a Red Army truck to the 2d Cavalry Division Headquarters and reported to Major General Millikin—it was a job well done.

While this was of great strategic importance—no less important in the "battle" was the blowing of several more bridges by the 2d Cavalry Division Engineers.

In the immediate maneuver area three important bridges down the Sabine from Logansport northwest were originally prepared for demolition by the 2d Army Engineer troops. However once the 2d Cavalry Division withdrew to defensive line with their backs to the Sabine River the job of actually destroying the bridges fell to the 9th Engineers. A liaison officer of the 2d Army Engineer Headquarters with the complete data of preparation of Sabine bridges for demolition turned over the guarding and demolition of these bridges to the 2d Cavalry Division. As soon as the change of command took place the Division Engineer Major Harry O. Paxson sent Engineer detachments to the bridges at Logansport, Highway 71 and Highway 59, and pending the decision as to which bridges would be utilized if further withdrawal was necessary, all bridges were heavily guarded.

At Logansport the bridge guard left in charge of Sergeant Robert Stillwagon (brother of Sergeant Arthur Stillwagon, member of the detail at Bon Weir and Burr Ferry) had definite orders to execute the demolition of the bridge only on the personal orders of Major General John Millikin, his Chief of Staff, Lieutenant Colonel William Bradford, or the Division Engineer, Major Harry O. Paxson. In each case these orders if not delivered in person were to be accompanied by a code word, i.e., "Arthur," the first name of Sergeant Stillwagon's brother.

The opposing Blue forces tried time and time again to capture the bridge but to no avail. In one instance Blue soldiers commandeered a civilian car and tried to bluff their way across the bridge but that attempt was nipped in the bud.

Not only was the bridge guard plagued by the Blue forces but his own Red forces also tried to have Sergeant Stillwagon blow the bridge before the 2d Cavalry Division or all its attached units were across. Finally, after the Division was forced to retire across the Sabine via the bridge at Highway 71, and Blue pressure on the Logansport bridge became critical, Lieutenant Colonel Bradford ordered its demolition.

About this time all remaining bridges over the Sabine, except Highway 71, were ordered destroyed, and as often the case in actual warfare, instructions for the demolition of the bridge at Highway 59 went astray.

This probably would not have occurred if the Division Engineer had radio communication with his bridge guards. Blue (mechanized) advance guards were approaching Carthage at the intersection of Highways 59 and 79 and General Millikin directed the Division Engineer to verify personally the destruction of the Highway 59 bridge over the Sabine. A convoy of six infantry (armored) half-tracks were dispatched to the scene and under the direction of Major Paxson this last important link between the Red and Blue forces was destroyed. Once again, the demolition of important bridges had stalled the Blue advance.

If a bridge is destroyed without regard to enemy position, the enemy often is able to change his plans or send ponton equipment ahead so that no delay will result from the loss. There is a strategic time to blow a bridge which, though dangerous as a mission, catches the enemy after they have come to depend on that bridge and their plans to entail its use. Such was the case of the Bon Weir where its loss had not been foreseen and no ponton equipment was available for at least twelve hours. Had either the bridge at Bon Weir or Logansport been blown days earlier, little delay or confusion would have resulted.

Learning from the history of the disastrous French withdrawal, when the Germans invaded the Lowlands, over-centralization of bridge-blowing was avoided by the Second Army. In its place, a plan of decentralization was adopted as a "time-saver" and as a means of insuring the demolition of all bridges vital to the advance of opposing forces. No bridge was left for a higher command to blow, only to fall intact into the hands of the enemy. Decentralization was Second Army's insurance against such possibilities.

In one instance, this plan of decentralization backfired in that a squadron of the 4th Cavalry (attached to the 2d Cavalry Division for maneuvers) was trapped when a bridge was blown behind them. They effected their escape but only after swimming two troops across the river and sending vehicles nearly one hundred miles to the west.

Here, once again, the "bugaboo" in modern warfare, closer coöperation between land and air forces, raises its head. Had notification of the withdrawal been served on the attached air unit and, in this particular instance, had the air unit dispatched a plane to spot friendly troops on the wrong side of the river, destruction of the bridge could have been held up to allow the 4th Cavalry to make a faster and less expensive crossing.

The lesson to be learned from this "Battle of Bridges" is that every bridge must be handled in a way the tactical situation dictates. While care must be taken to insure that the bridge in question is blown, a commander must be sure that the action must not cause hardship or disaster to friendly units. Somewhere along the line between centralization and decentralization there is a happy medium—built possibly on coöperation, initiative, and a share of good luck.



# Horsemanship Training

## At Our CRTC

*By Lieutenant Colonel E. M. Burnett  
and Major Henry M. Zeller, Cavalry*

IN twelve weeks training at the Cavalry Replacement Training Center it is impossible to make finished horsemen of recruits who have never seen a horse before, however, as they join their regiments, the men trained in the horse troops will at least "fit in." The goal of the Horsemanship Department, which is responsible for the planning and supervision of horsemanship training, is to give these men sufficient basic horsemanship instruction so that it will be necessary for them only to acquire experience in order to become excellent cavalry troopers.

Quantity production in recruit training is a very different affair from training recruits in a regimental recruit detachment under peace-time conditions. In the "old days," if a regiment had twenty recruits (which was a fairly large number to have at one time), they were organized as a platoon with an officer in charge, a sergeant or two as his assistants, and with a corporal as squad leader of each squad. At the CRTC one non-commissioned officer has the whole job by himself. Furthermore this non-commissioned officer himself may be a recent graduate of the CRTC. The smallest unit commanded by an officer is the half-troop, consisting of four platoons. Thus it can readily be seen that these non-commissioned officer platoon leaders have a considerable problem of supervision and correction, particularly when instructing in horsemanship, since three or four squads of recruits can get out of hand rather quickly when mounted. Under these conditions it is necessary for the Horsemanship Department to plan the daily instruction periods in detail in order to save the officers and non-commissioned officers of the troops this work and to leave their minds free to conduct the instruction. Instruction methods must be kept simple and stereotyped.

As just mentioned, many of our non-commissioned officer platoon leaders are themselves recent graduates of the CRTC. These men are carefully selected, and since many high-type and well educated men pass through the CRTC as trainees, there is a great deal of material from which to select. Further, if any of the men selected as non-commissioned officers do not prove satisfactory, they can easily be replaced out of later increments. It is this opportunity to select replacements for any non-commissioned officers who are not actually excellent that makes horsemanship training practicable with the low ratio of cadre personnel to trainees. Each

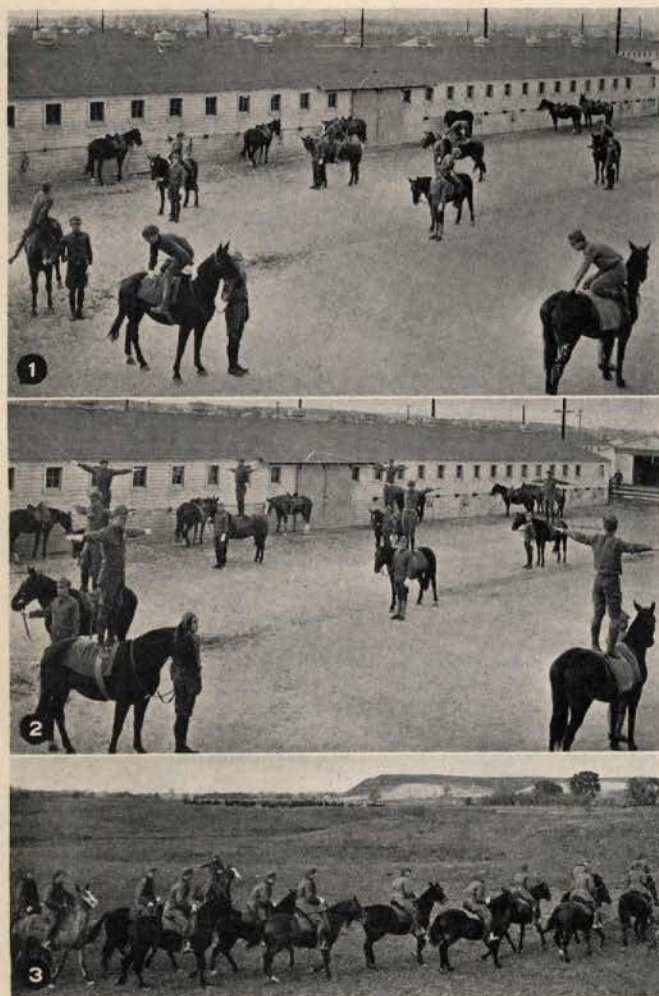
platoon leader has what was actually an officer's job in peace-time.

In order to provide help to the platoon leader in the supervision of his unit, the eight best trainees in each troop are designated trainee non-commissioned officers, and one is assigned to each platoon as file closer. Also, selected trainees are assigned as squad leaders. This use of trainees as acting non-commissioned officers, besides affording additional supervisory personnel, gives the men selected an opportunity to show and develop their leadership qualities. This, in turn, gives the troop commanders an opportunity to choose those men they desire to keep as non-commissioned officers of the cadre.

As the CRTC has progressed and experience has been gained, the course in horsemanship has become clearly delineated, and methods are exact and definite. Three phases of horsemanship instruction from which excellent results have been derived are worthy of comment on account of the results obtained and because they are methods not generally used in the service. These are, first, giving a week of dismounted horsemanship instruction prior to the first occasion when the trainees are allowed to mount, second, the use of elementary gymnastic exercises, bareback, at the halt and walk, and third, the use of routine exercises at the beginning of each mounted period. The importance of both the first two phases of training mentioned above lies in the fact that they tend to overcome apprehension, of which there is a great deal since many of our trainees have never before mounted a horse.

During the first week, training given under the Horsemanship Department is all dismounted, and consists of instruction in the duties of stable police—including information as to safety precautions to be followed when working around horses, instruction in cleaning equipment and grooming, and instruction in the adjustment of saddle equipment. It is desirable of course that the trainees be well grounded in these basic subjects at the outset of their training, but the principal advantage of this dismounted week is in overcoming apprehension. When they first approach horses some of the trainees are so apprehensive that they retreat hastily at the slightest move of a horse, but by the end of the week of dismounted instruction most of them look like old troopers when working around horses on the ground and are fairly well relaxed when they first mount during the second week of training. Just working around the





1—1st Platoon, Troop D, 1st Training Squadron at monkey drill, which is part of the fifth riding lesson. The platoon leader is Sergeant R. B. Williams, who came to the CRTC from the 7th Cavalry as a member of the original cadre. The exercise is "face to the rear, starting with the legs crossed in front of the body, and reverse." 2—At monkey drill, fifth riding lesson. The exercise is the "full stand." 3—On the drill ground during the fifth riding lesson. This is part of the same lesson during which the pictures of the monkey drill exercises were taken. Notice that many of the men already have good positions in the saddle. This troop is commanded by Captain Victor L. Olsen, Cavalry.

stables and horses seems to impregnate them with a bit of the "stable atmosphere." Furthermore, this dismounted period forms a desire to ride, so that the men begin to ask their non-commissioned officers when they are going "to get to ride."

The bareback gymnastic exercises or "monkey drill" exercises serve the same purpose of overcoming apprehension, the exercises given being extremely simple and being given only at the halt and walk. These exercises start during the third riding lesson and continue through the third and fourth weeks of training. When they begin the exercises some of the men fall off frequently, but as they realize they are not hurt they gain confidence, and each man thinks it very funny when somebody else falls off. The result is that the exercises furnish general

amusement and consequent relaxation. The exercises used are as follows:

Vault on, near side, to straddle seat;

Vault off, near side;

Knee stand;

Face to the rear, starting with the legs crossed in front of the body, and reverse;

Vault on, near side, to side seat;

Full stand;

Scissors to rear, and reverse.

The necessity to keep instruction methods simple and stereotyped implies reduction to a routine. This is particularly applicable in equitation, therefore the Horsemanship Department has published a "Pamphlet on Mounted Exercises." This pamphlet is pocket-size, and is carried by officers and non-commissioned officers at all horsemanship instruction. Very briefly, it lays out the entire course in equitation in the form of exercises to supple the rider and to force him into the correct seat. After the tenth riding lesson, these exercises become a routine which is repeated daily. This routine obviates for the platoon leader the necessity of planning his instruction, thus enabling him to concentrate on the correction of errors, etc. Also, it serves in the same way to compensate for lack of experience on the part of the platoon leader in conducting equitation instruction. This effect of the use of the routine is particularly helpful, since the ability to conduct equitation instruction is an art, not a science, and is acquired only through experience. The exercises given in the pamphlet furnish an irreducible minimum of instruction, other training publications may prescribe further steps in each lesson, but since the pamphlet can readily be carried in the pocket, it is always there to refresh the memory of the instructor.

The routine given to be followed after the tenth riding lesson is a satisfactory method for use in further equitation training of graduates of the CRTC after they have joined their regiments. Since this is the case, the routine is quoted below:

1. Spend five minutes on SUPPLING EXERCISES AT THE WALK WITHOUT STIRRUPS, reins loose and floating. Exercise from toes to head:

(1) Rotate the feet.

(2) Alternately flex the knees.

(3) Rotate the right (left) arm vertically and raise and lower the toes.

(4) The right (left) arm extended horizontally, palm up, rotate the body by twisting at the waist, right to left and left to right, eyes following the hand.

(5) Rotate the shoulders—forward, backward, upward, down.

(6) Rotate the head and flex the neck—forward, right, back, left, forward, up.

2. Spend five minutes at the SLOW TROT WITHOUT STIRRUPS, steadying the seat with the hand on the pommel if required. Then WALK WITH STIRRUPS for three minutes.



3. Spend two three minute periods on SUPPLING EXERCISES AT THE GALLOP, broken by a minute's walk. (Use any exercises in 1, above, that can be done with the feet in the stirrups.)

4. Give this exercise at the WALK:

With the right hand on the neck, stand in the stirrups, driving the heels and the knees down, feeling the weight go out through the heels; then with the BACK HOLLOWED, chest up, hip joints to the rear—sit down ONLY AS FAR AS THE THIGHS WILL PERMIT. Then take the test (without the hand on the neck): can you stand up in the stirrups in balance, without first leaning forward or making any preliminary adjustment of your position?

5. Give this exercise at the TROT:

With the right hand on the neck, stand in the stirrups, driving the heels and the knees down, KNEES FORWARD OF THE STIRRUP STRAPS, stirrup straps vertical; as you do this feel the heels driven down at each beat of the trot; then with the back hollowed, chest up, hip joints to the rear—sit down AS FAR AS THE THIGHS WILL PERMIT, on every other beat—in other words, post.

6. Spend three minutes at the GALLOP WITHOUT STIRRUPS, allowing the men to hold on to the pommel and lean back, taking the motion of the gallop in the loin, thus getting the rhythm of the gait.

7. Put the class at the GALLOP WITH STIRRUPS and check positions for the following: heels thrust far down with the stirrup straps vertical, buttocks to the rear, back hollowed, fork deep in the saddle—in all, a light seat. If the class does not qualify in this respect, REPEAT EXERCISES 4 AND 5.

Whether or not a trooper can ride his horse makes

little difference in the field if he has no idea as to how to take care of him, so increasing emphasis has been placed on horsemanship as the corps of instructors—at first rather green—has gained experience and knowledge. All that the rank and file trooper should know, is taught, and as this comprises a good deal of information, the instruction cannot be imparted in such a short period so that the trainee will remember it all, even with constant emphasis and considerable repetition, both in principle and in detail. Even in the case of those men who have ridden prior to coming to the cavalry, all this instruction cannot be permanently absorbed, since their previous experience means little, horsemanship being largely a lost art in the civilian population. Above all, emphasis is placed on the fact that the trooper and his horse are an inseparable unit, and any fault or neglect of the man which even *tends* to put his horse out of action is a move toward cancellation of himself as a cavalry trooper.

No attempt is made to teach anything beyond the simplest equitation, that is, the rider should allow his horse to move with head and neck extended, on a lightly stretched or loose rein, while sitting the horse correctly so that he can function best. Since this is the case, and since probably no trainee will completely absorb all the horsemastership he needs, it is desirable that all graduates of the CRTC receive further training in horsemanship and horsemastership after reporting to their regiments, just as they should in all their duties. This is equally as important as further training in tactics, the use of weapons, etc. In other words, the CRTC graduate is well grounded as a basic cavalry trooper, but he should receive further training to absorb him into the particular combat unit which he joins.

## How to Be a Successful Soldier

*By Colonel Walter F. Siegmund, ORC*

- 1—Observe everything within your notice.
- 2—Learn what your duties are and do them cheerfully and efficiently.
- 3—Be alert and on time.
- 4—Obey orders, but be sure you understand them; if not, ask questions.
- 5—Put all your energy and drive behind everything you do.
- 6—Keep yourself and your equipment neat and clean.
- 7—Indulge in clean recreation off duty.
- 8—Put duty before pleasure.
- 9—Pick with great care your associates off duty, and avoid those who may try to influence you to indulge in things you know might injure you.
- 10—Mind your own business, and don't become a part of grapevines spreading rumors among your fellow-soldiers. If you want information or need advice, go to your commanding officer.
- 11—When things go wrong, take it on the chin like a man. Don't be a cry-baby, but if you have a just complaint for the good of the service make it to your commanding officer.

12—Don't try "bull" to get by—it will catch up with you, and always remember that no man ever had a good enough memory to become a successful liar.

13—Don't be a boot-licker.

14—Don't try to gain recognition by hanging around headquarters.

15—Cultivate the respect of your fellow-soldiers, and you will win the respect of your superiors and promotion.

16—Attend religious service.

17—Don't forget the folks at home are waiting for a letter from you regularly.

18—Don't borrow or lend money—it makes enemies.

19—Save some of your pay.

20—Remember this always—that your sense of right and wrong is your greatest leader. Do all those things you know are the right things to do, and don't do any of those things that you know are the wrong things to do.

21—Resolve to leave the service a bigger and better man morally and physically—a credit to your family and your country.



# The Officer and Mechanized Paper Work

*By Lieutenant Colonel F. W. Drury, F. D.\**

ONE of the contributing factors which resulted in the loss of the Battle of France was the clogging of highways by refugees. This situation so slowed up the military movements of the defending forces that the highly mechanized, well-coördinated divisions of the enemy were able to cut off and encircle the French forces, section by section, until, in hopeless confusion, utter rout, and complete disintegration they surrendered.

When almost overnight an army increases in size from 200,000 to 2,000,000, the sudden enormous increase in army paper work tends to have the same effect on organization programs, reception procedures, and training operations as that produced by the congestion of arteries of transportation in the Battle of France.

In the early days of this Republic, army paper work was relatively simple, but even then it was burdensome. George Washington, for example, carried with him during the Revolution a relatively large, bound ledger in which he recorded advances of funds received from the chief finance officers of the Continental Congress, and against which he recorded his personal expenditures as well as those of the disbursing officers whom he had appointed to assist him.

Since the time of Washington, paper work has grown more complicated during each succeeding decade—particularly during each war period, and, until recent years, has been conducted largely on a manual basis with visible and permanent record forms. The last three decades, however, have seen a very rapid advance in the use of labor-saving devices throughout the business world for the handling of paper work. First came the typewriter with carbon paper and duplicate copies, inventions which revolutionized methods of writing communications and methods of filing. Second came adding machines and procedures for periodic summarization of accounts and reports. Third came the visible posting bookkeeping machine with the related development of loose-leaf, post binder ledgers. Fourth came visible card files for the maintenance of data requiring quick and ready reference. Fifth came the development of calculating machines by which complicated operations involving multiplication and division could be handled quickly and accurately. Next within very recent years, has come the rapid development of electrical accounting machines utilizing cards with holes punched therein. And, finally, have come devices for duplicating and

preserving certain records and data by a variety of methods of photographic reproduction.

These efficient labor-saving devices have made it possible to administer successfully in America great business organizations on the size and scale previously considered impossible.

Many of these progressive inventions can well be adapted to use by the Army, for the administration of great assemblies of men and material is one of the major problems of modern warfare. The handling and digesting of masses of army papers have become almost as important today as is ability in tactical operations. Countless examples might be given to show how knowledge of the latest mechanical devices greatly simplifies paper work and general administrative procedure. Consider the problem of purchasing and storing supplies and equipment at any one of the numerous warehousing points. The handling of such matters was complicated for an army of less than 200,000. Imagine the complications for an army of 2,000,000, and then 4,000,000 unless considerable study is given to the use and proper application of every possible time and labor-saving mechanism. Or take the greater problems of today with which a large army must cope. First, consider the paper work of the budget in the accounting and statistical controls involved in reducing the time between proposing an army program and obtaining the approval of the program through an appropriation by Congress. Second, consider the planning and administrative paper work in accounting and reporting controls necessary to reduce the time lag between the availability of funds and the actual receipt by the army of supplies and equipment from private manufacturers. Third, consider the management problem of bringing together gun, airplane or tank with properly trained men, and blending the whole into a well-coördinated, smooth-working entity. Fourth, consider the problem of day-to-day operating control of the mobility, flexibility, and readiness for action of great assemblages of men and equipment in thousands of units, in hundreds of divisions, in a score of corps areas and departments in the armies of the entire Nation.

Go one step farther. Contemplate the relatively elemental problem of maintaining and supplying the thousands of items required today in a single modern, mechanized "Blitzkrieg." The motor transport of hundreds of thousands of men and equipment forty and fifty miles a day—the gas, the oil, the spare parts, the

\*In collaboration with Mr. Walter A. Bowers, Executive Assistant U. S. Treasury Department.



repair items, the service items, the storage and stock inventories, the reserves—all require daily and hourly keeping of records and accounts and preparation of statements and reports at hundreds of points. These, in turn, must be summarized at subcontrol points, and, finally, subcontrols must be brought together into one coördinated picture for the Commander in Chief. As a Nazi general said of the modern "Blitz," "It is paradise for a tactician but hell for a quartermaster."

Therefore, in order to prevent delay, confusion, and congestion, modern mechanized procedures and mechanical devices must be utilized to simplify and digest the great mass of army paper work until operations are as smooth, speedy, and efficient as they were when the army was one-tenth its present size. Paper work and administrative mechanics in the rear must today be ahead of military operations—not behind.

American inventive skill and genius offer a wider variety of mechanical devices and time and labor-saving office equipment than is available in any other country on earth. Micro-files, tabulators, calculators, selectors, viewers, card punchers, sorters and countless other devices and gadgets now digest in a few hours a quantity of paper work that formerly could have been handled only in months and years.

Probably the most important of the modern mechanical devices are those which concern recording and accounting. Only a few years ago this type of work was done by bewhiskered gentry sitting on high stools at old-fashioned desks and using quill pens, green eye shades, and ornate paper cuffs. Today, a Twentieth Century stream-lined Miss sits before an artistically contoured console, and, with practically no effort, and

at the rate of several thousand a day produces, by electricity, thousands of hole-punched cards which thereafter are used to make entries in scores of types of ledgers. A half century ago this procedure would have been a godsend to the men on whose shoulders fell the problem of organizing and training armies.

Filing procedures have also been revolutionized. Modern equipment makes it possible to find mechanically in a few seconds the whereabouts and other information concerning any one individual no matter where he is located. Even though his card has been filed in the midst of a million or ten million other cards, it is readily obtainable. Further, by a combination of simple mechanical and photographic processes, thousands of tons of records can now be reduced in size and stored in space one-hundredth that required for the original papers and documents.

Hence, just as science was responsible for chemical warfare and aerial warfare, so today it is playing a vital part in developing means for expediting and simplifying army paper work.

It seems reasonable, therefore, to suggest that all officers, cadets and other potential officers of the modern armies be informed as to the uses and mechanics of the elementary devices for accurately simplifying, expediting, and summarizing paperwork and the related administrative management procedures; so as to secure economy of effort in the assembling and digesting of the vast quantities of facts and figures they will receive. Provision should be made for definite training along these lines. Then, and only then, will the army be completely *stream-lined*.



## Criticism and the Inspector

It is unfortunate that most of us dislike and resent criticism, a dislike that makes it hard for those in authority to correct errors, with the result that the sense of these uncorrected errors often piles up till there is a sudden explosion over some comparative trifle, really the sum of condemnations for a series of faults. Inspectees should therefore be trained to accept criticism cheerfully. The wind can often be taken out of the corrector's sails by immediately admitting the error. After all, his main object is to see that it does not occur again; if he sees that the culprit is equally decided in the matter he is satisfied, and also pleased at not getting the usual dirty looks.—LIEUTENANT COLONEL E. G. HART, D.S.O., from the article "On Organization" in *The Royal Air Force Quarterly*.



# ARMY TRAILERS

*By J. Edward Schipper, M.S.A.E.\**

EDITOR'S NOTE: Upon request, this article was prepared by the Fruehauf Trailer Company exclusively for The CAVALRY JOURNAL.

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THE greatest difference between warfare of today as compared with the last World War lies in the extreme advancement in mobility. A great part of this progress is due to improvement in automotive design. Much has come from the development of commercial transportation. It is but natural, now that we are engaged in war, that equipment developed for commercial highway transportation should be utilized, in many cases with only minor deviations, by the military forces.

During the quarter century which has passed into history between World War I and World War II, highway transportation in the United States has developed from a mere infant into a giant industry. We have in this country alone approximately three and one-half million men who make their living driving trucks. These are backed by many more millions whose job it is to build, equip and maintain these trucks.

An interesting index of the growth of this industry in the United States may be furnished by a contrast between the hard surfaced roads in 1914 at the beginning

of the last World War and in 1939. The two maps shown, Figures 1 and 2, illustrate the hard surfaced roads in 1914 and today. As will be noticed in 1914 there were practically no interstate, and certainly nothing that even approached, transcontinental hard highways. Today we have a network which embraces the entire country and adds tremendously to the strategic strength of defense as well as to our ability to decentralize industry and in general utilize efficiently the resources of the country.

It is but natural that along with development of this network of highways progress in equipment has been made. Today about 90 per cent of the long-distance hauling by highway in this country is done by truck-trailer. The trailer idea is based on the old established theory that "a truck, like a horse, can pull more than it can carry." Big loads can be rapidly and efficiently transported by trailer, and the vehicle itself, because it is articulated, has the advantage of extreme highway maneuverability. It is able to turn in less than its own length and furthermore, has an advantage from a military standpoint as well as commercial, that it does not tie up a power plant when stationary as the tractor unit can simply drop its load wherever it may be and go on its way to pull other trailers.

In commercial use truck-trailers are frequently employed on what is known as a "shuttle operation." In

\*Advertising Counsel, Fruehauf Trailer Company. (Member, Society of Automotive Engineers.)

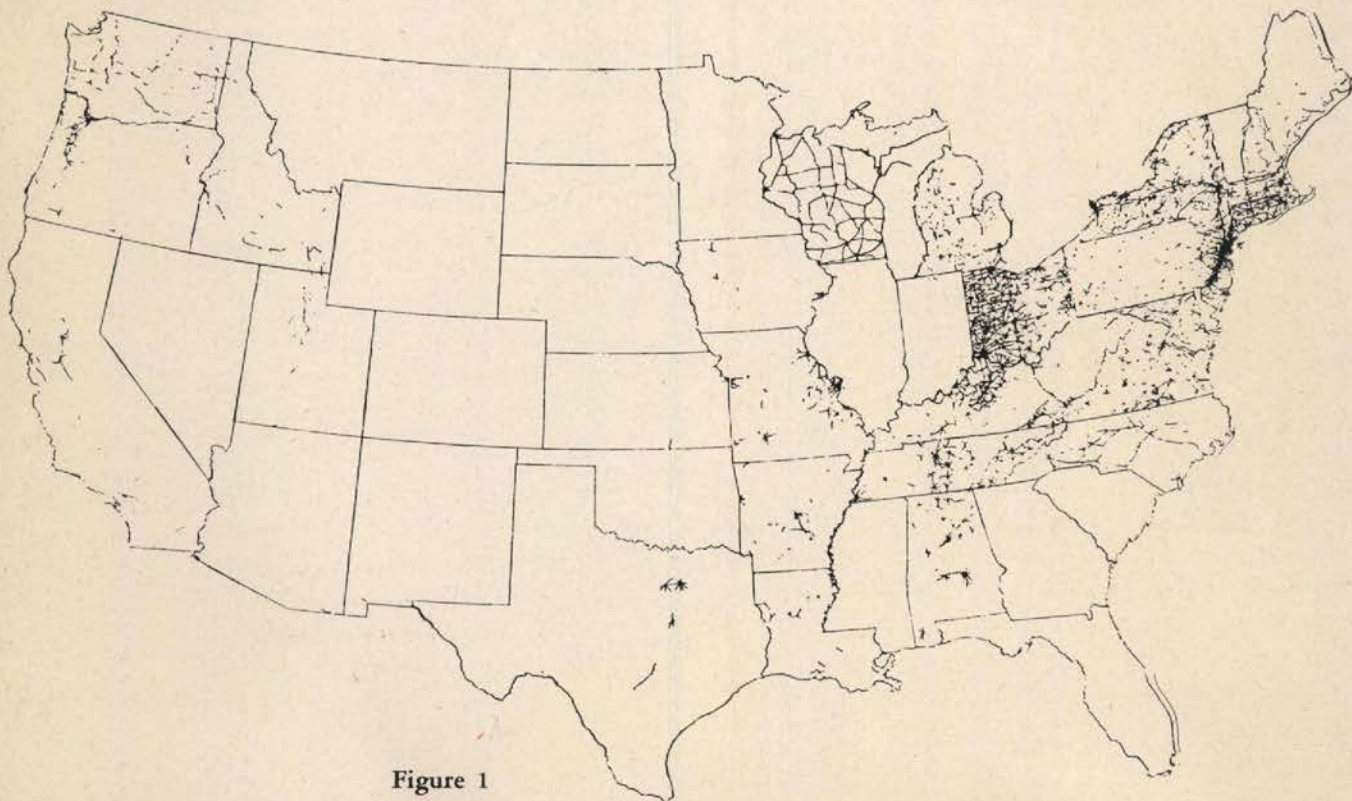


Figure 1



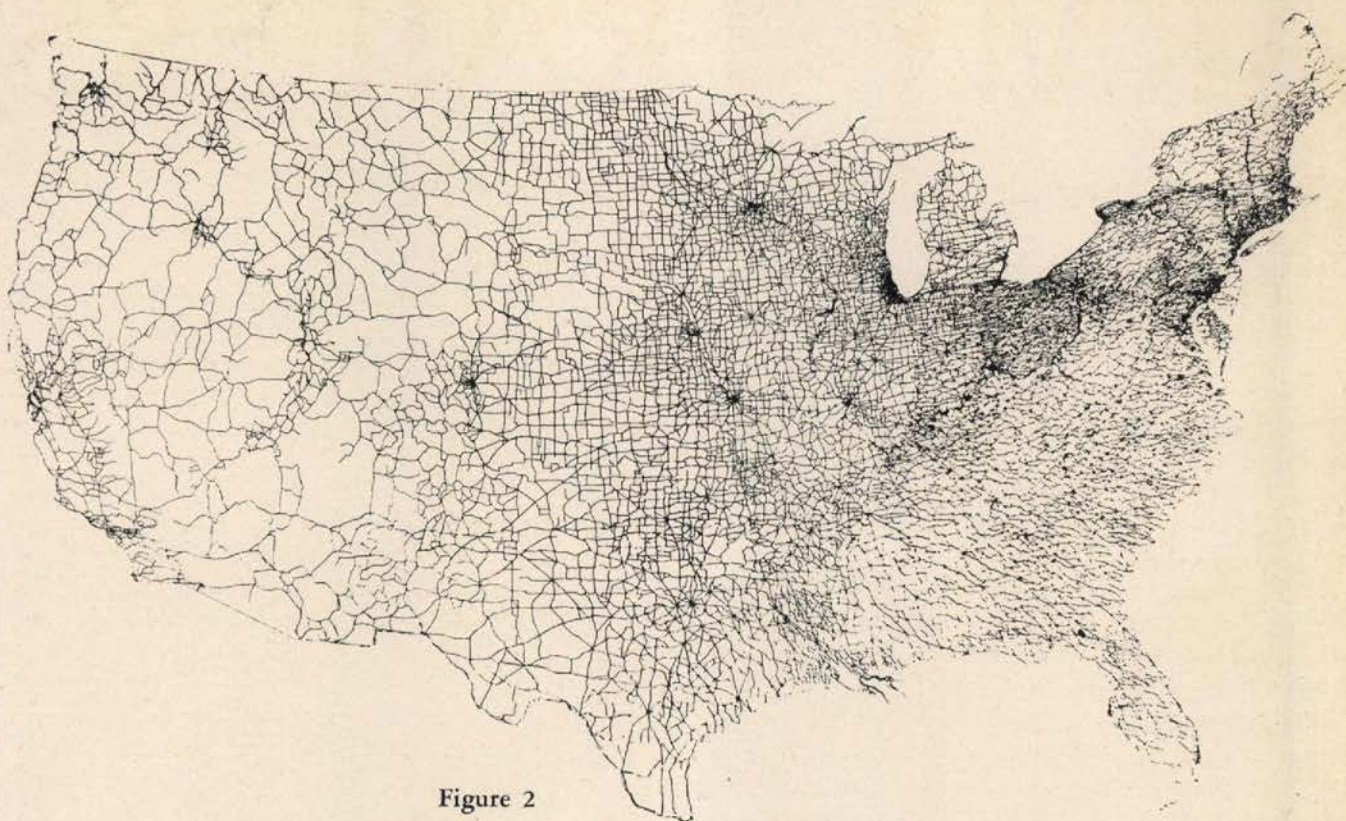


Figure 2

this case a tractor unit takes care of two or even three trailers—one being loaded while another is unloaded and the third is in transit. For military purposes it is possible to use trailers for straight haulage as well as for repair shops, mobile depots, mobile headquarters, and for a tremendous variety of other purposes.

The extreme flexibility, adaptability and versatility of the trailer in the commercial field where it is used for every purpose from alley deliveries up to the transportation of heavy machinery weighing forty tons or more, is rapidly being duplicated for military purposes. In the cavalry, trailers are already being used for a multitude of purposes. The transportation of horses and complete cavalry equipment to suitable points on the front—from which it can be deployed as a mounted force—is naturally an obvious use.

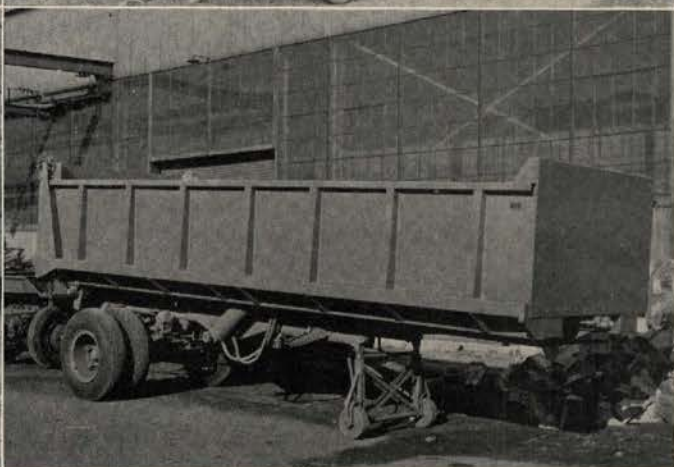
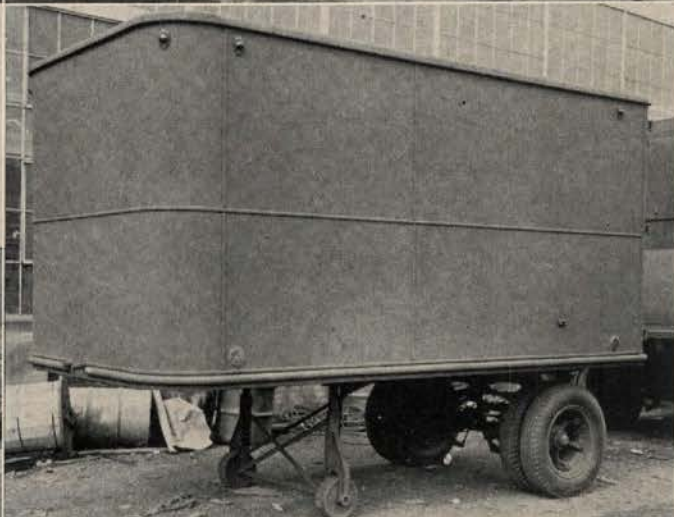
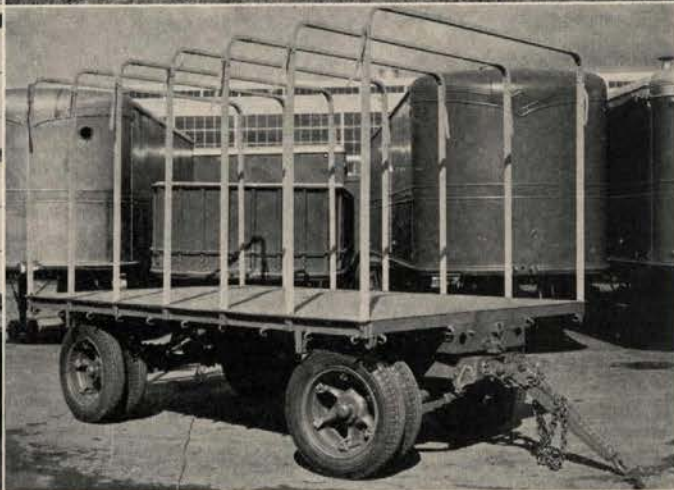
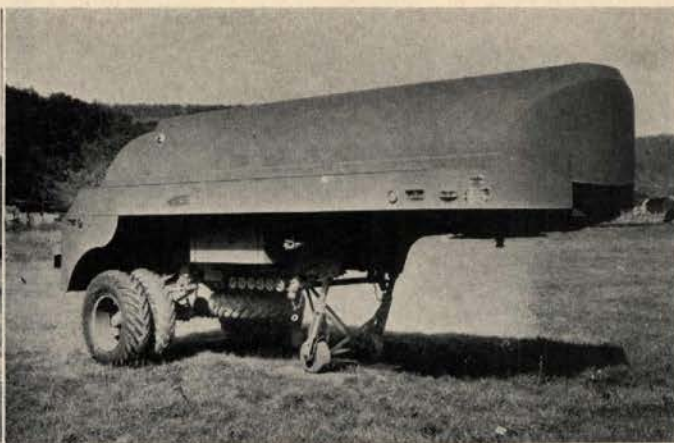
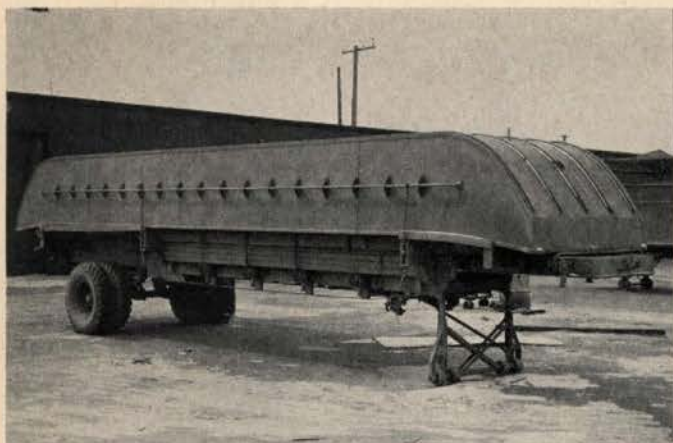
With light tanks and many other pieces of heavy equipment being a part of the cavalry's mechanized set-up today, the trailer takes on a tremendously added importance in this branch of the service just as it has in the others as illustrated by the equipment shown on these pages. It does not take any great amount of vision to picture the many uses to which a detachable, mobile unit capable of transporting all types of loads can be applied. In military, as in commercial use, it is simply a matter of studying the problem and adapting and designing or selecting the type of trailer equipment suited for the job. *There is a further thought, however, in that many facilities and military services not heretofore possible are made entirely practical by the trailer development.*

#### TRAILER MAINTENANCE

From the standpoint of practical field work the question of maintenance is always important. The most successful maintenance plan which results in the minimum tie-up of the vehicle depends on an orderly routine of inspection, repair and replacement. The problem is entirely similar to that of commercial work where the trailer must be kept rolling day and night and the time for the vehicle in the shop must be held down to the limit. Such a routine has been worked out by a typical commercial shop and it is entirely applicable to military work. In the case of the commercial shop, if the trailer arrives at 8 AM it will be returned to the operator not later than 6:30 PM the same day with the following work completed if required:

1. Refloored (see following paragraph)
2. Rebushed
3. Brakes adjusted or relined (if necessary)
4. Hubs washed thoroughly in "Varsol"
5. Bearings washed in "Varsol" and repacked *under pressure*
6. All lights checked and replaced when necessary
7. Springs and radius rods rebushed if necessary
8. Springs checked for broken leaves, arch, etc.
9. Alignment checked and corrected if necessary
10. Damaged plywood or slats replaced
11. "Touch-up" painting where necessary
12. Trailer completely lubricated
13. Vacuum system checked, moisture trap cleaned and drained





Several types of Army trailers.



14. Fifth Wheel checked for wear and necessary replacements made
15. King pin "Miked" for wear

In this particular shop reflooring is accomplished in a different method than heretofore. Instead of replacing the main floor, damaged boards are replaced. A heavy coating of hot tar is applied to the old floor, covered with No. 16 wet tar paper and over this is placed an oak floor similar to that used in houses (nailing this to the old floor with galvanized nails to prevent rust). The tar and tar paper combination absolutely seals the two floors together.

The above list furnishes a method of completely checking the trailer. Only the work actually required is done and the time required for the job is correspondingly less. Major commercial fleet operators have followed a similar routine in many instances with a great deal of success resulting in greatly reduced time in the shop and practically eliminating delays on the road.

Naturally on vehicles of this type the matter of brake maintenance is of particular importance, and, in co-operation with brake specialists, routines have been worked out which have resulted in increasing brake lining life from 8,000 to 30,000 miles while brake drum breakage has been just about eliminated.

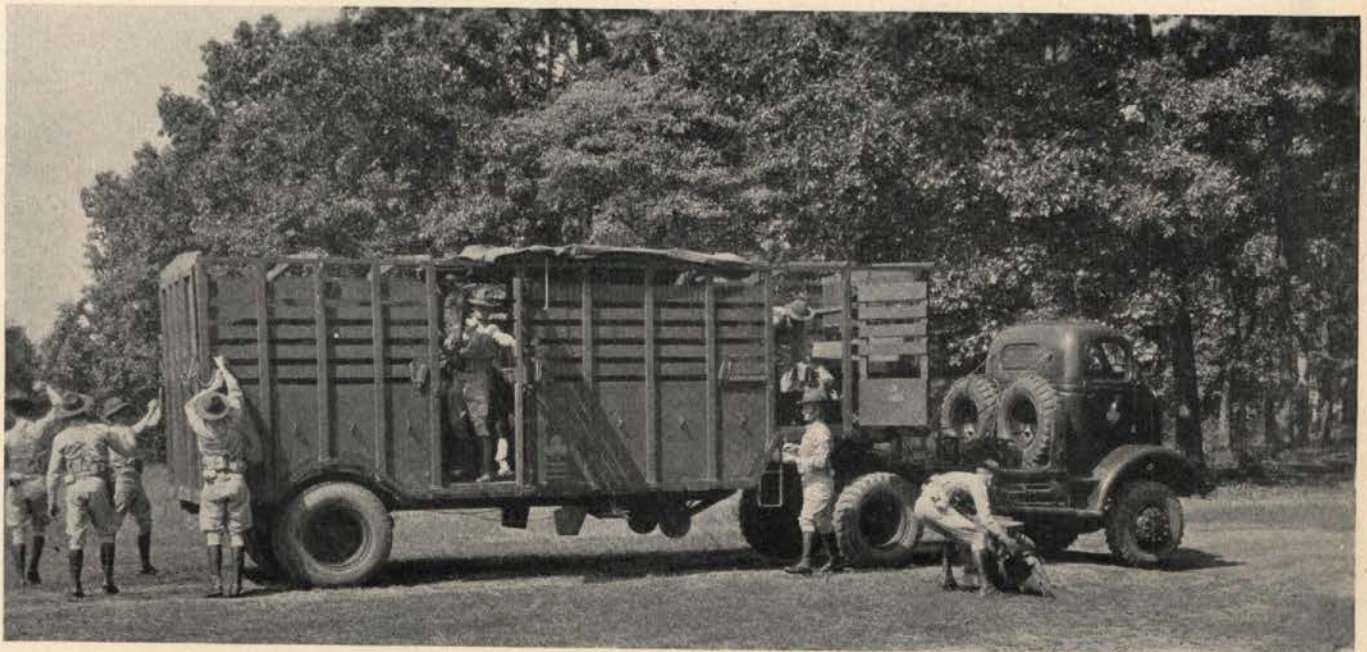
Delays due to such practical considerations as grease on brake linings, necessity for removing wheels and frequency of adjustment have been cut down due to proper brake analysis and maintenance to an amazing degree. At the same time, brake performance on the highway has been improved from 50 to 75%. All of this contributes materially to efficiency of transportation. The savings in time and money are high, beyond the possibility of estimation because they are so far reaching. One noticeable effect, for example, of properly maintaining the brake equipment is that tire blow-outs caused by heat have been practically eliminated.

Before the Society of Automotive Engineers at the annual meeting in Detroit, Michigan, January 6-10, 1941 this subject was exhaustively covered in a paper entitled "Brake Equalization Between Truck-Tractors and Trailers" by John W. Votypka, Chief Engineer, Fruehauf Trailer Company and E. Vance Howe, Bendix Westinghouse Air Brake Company. In this paper, developed as the result of a long series of field tests in which the brake drum temperatures were measured on truck-trailer combinations in the Allegheny mountains, it was found that where proper maintenance programs had not been followed a tremendous difference existed between brake drum temperatures on different wheels of tractor and trailer, indicating that the loads were being concentrated on one or more wheels resulting in uneven wear as well as uneven braking.

It is not intended here to go into the technicalities of brake balancing as manufacturers' service instructions cover this situation fully. It is intended, however, to call attention to this matter of brake maintenance as being essential to the best possible performance of the unit and as a necessary part of the education of the operating and maintenance personnel.

The rapidly growing use of truck-trailer equipment will do much to speed up mechanized warfare. Trailer equipment is capable of bringing slower-moving units up to the front lines where they can be valuably employed. It is useful in eliminating the necessity of unloading the vehicle because the trailer and its cargo can be dropped by the tractor unit and picked up again when required. The valuable time saved in the loading and unloading operations can not be even approximately estimated. At times it may mean the difference between saving and losing all-important matériel.

Above all the trailer is a most important means of getting the striking power of the cavalry unit up where it may be used and used quickly; and no one knows the value of timeliness better than a cavalryman!



Cavalry Portée equipment.



# The German Armored Force

*By Captain Carl T. Schmidt*

EDITOR'S NOTE: Several of our members recently requested articles on "The German Armored Force." In our opinion, the best article on this subject immediately available to us is the one published in the December, 1941, issue of *The Infantry Journal*. Inasmuch as there is only about a 5% overlap in our respective subscription lists the Editor of *The Infantry Journal* courteously has authorized our republication of this valuable article.

\* \* \* \*

66 **A** WARTIME expedient, successful against the Germans in 1918 when their infantry was greatly reduced in numbers and surprised by this new device, the tank cannot yield good results against an infantry forewarned and adequately armed." So wrote an observer of the civil war in Spain, three years ago. About the same time another writer declared: "The tank, as well as the artillery, is only an auxiliary arm, intended to assist the infantry. . . ."

These statements, made so shortly before the cables were telling the story of the panzer onslaught against the Low Countries and France, the story that the great French Army, without equipment to deal with such an attack, was being slashed to ribbons by a new and terrible instrument, greatly minimized the power of this instrument. And since the Battles of Flanders and France, the pendulum of mechanized emphasis has swung violently, and perhaps too far. For now there is too great an insistence that tanks, plus planes, are in themselves the key to victory.

The observers of the war in Spain were perhaps sound enough in their judgment of a specific matter—that is, of the combat value of lightly-armored tanks, employed in more or less piecemeal fashion, and with little in the way of coordinated support from other arms. But as broad generalizations, their findings were far from accurate. To make sweeping conclusions affirming universal truth on the basis of slender evidence is an all too common tendency, not least in military writing. It has now come to be just as easy to overgeneralize the decisive importance of the tank. It is as absurd to argue that the tank arm—or, for that matter, the air arm—is the "decisive weapon" as it is to insist on the eternal supremacy of the foot soldier or the cavalryman. War is a supremely complex, collective effort. Many

kinds of men, and even more varied techniques, are required for victory on the battlefield. However, one thought seems patent enough: The machine technology is as surely molding the methods of warfare as it is transforming all other institutions of our times. And the army that adapts itself most completely to machines—machines which can move fire-power at maximum speed and with a maximum of protection—that army clearly has a margin of superiority over opponents who do not make the utmost practicable use of modern means of war.

The tank has amply demonstrated its powers on the plains of Poland, in the rolling countryside of Flanders, France and Russia, on the deserts of North Africa, and even through the rugged mountains of the Balkans. Yet it is not the tank alone. It is the tank working and fighting against the enemy with equally mobile infantry, artillery, engineers, signalers, aviation, and essential services—a *force of all arms*, that has hopelessly outmoded the slow-moving combat units of 1918 pattern.

If the Germans were not the first to recognize the tactical and strategic possibilities of the tank in large, independent units, they were at least the first to exploit these possibilities to a major degree.

Tanks were first developed as a weapon with which to dispute the supremacy of the machine gun. Thus the infantry, immobilized by hostile automatic guns, was to have at least a degree of maneuverability restored to it. The tanks of the World War moved ponderously across No Man's Land, destroying enemy machine guns by their crushing weight as well as by their fire, and acting as a protective shield for the advancing infantrymen. This World War concept of the tank dominated the military minds of the victorious powers in the post-war years. Especially was this true in the French Army. It was held that the tank existed only to serve the infantry. Both arms were to work closely together. The tank should move no farther than the immediate objective of the infantry; it was to withdraw once it had aided the foot soldiers to reach their objective. To be sure, this viewpoint did not go unchallenged. There were some who pointed to the strategic possibilities of a speedy, far-moving armored force. Their argument did not prevail.

When the Germans began to rearm, they rejected the theory that tanks must be tied closely to the foot infantry. They decided that the speed of the modern





PzKw I (light) Seven-ton model as seen in Poland. Apparently no longer being manufactured.

tank could best be exploited, particularly after a successful breakthrough or envelopment, by using it in large numbers and by supporting it with highly mobile infantry, artillery, engineers, and aviation. Once the main hostile defenses had been overcome, such a force would be capable of striking rapidly through the entire depth of a hostile position. The supporting elements would be mobile enough to consolidate the gains made by the tanks, as well as to assist the penetration. A further advantage was seen in the organization of a mixed armored force under single command. General Guderian—the best-known tank soldier of Nazi Germany—put it as follows: “. . . There are important strategic and tactical objections to the organization of separate low-speed tank units for the infantry. The tank units that are designed for strategic purposes may also be used tactically either as entire units or divided. On the other hand, it would be impracticable to combine the division tank battalions for strategic employment. Aside from the fact that their equipment is not suitable for missions of this kind, the combined force would lack the requisite headquarters and could not produce them at will. The greater the speed of an arm on the march and in combat the more important that it and its commanders be trained in units that are organized in peace the same as they would be in war. In this respect, we have a valuable lesson in the misfortunes suffered by the German cavalry in 1914 as a result of untrained staffs, poor communications, inadequate equipment, and faulty march technique on the part of

large units; all of this can be attributed to its pre-war organization.”<sup>1</sup> The Germans felt that the experiences with tanks after 1918—as in the Spanish Civil War—confirmed their decision to establish self-contained armored divisions.

#### ORGANIZATION OF THE ARMORED DIVISION

The organization of the German armored division is quite flexible. Changes in the details of its structure and equipment appear to have been frequent. Units are recast to suit the expected requirements of specific tasks; the availability of matériel and the formation of new divisions also make for variations. Nevertheless, it is possible to detect a general pattern of organization:

##### DIVISION HEADQUARTERS

###### *Armored Brigade*

1 or 2 tank regiments plus staff, reconnaissance, communications, and maintenance elements (200 to 450 tanks).

###### *Motorized Infantry Brigade*

1 or 2 motorized infantry regiments, plus staff, assault artillery, reconnaissance and communications elements.

<sup>1</sup>General Heinz Guderian, “Armored Forces,” *The Coast Artillery Journal*, November-December, 1937.



*Artillery Regiment*

Several battalions of motorized artillery — 75-mm., 105-mm., 120-mm., 150-mm., possibly on self-propelled armored mounts.

*Motorized Antitank Regiment or Battalion*

47-mm., 50-mm., 75-mm., antitank guns, possibly on self-propelled armored mounts.

*Motorized Reconnaissance Regiment or Battalion*

Light tanks, armored cars, motorcycles.

*Motorized Antiaircraft-Antitank Regiment or Battalion*

15-mm., 20-mm., 37-mm., 88-mm., AA-AT guns, possibly on self-propelled, armored mounts.

*Engineer Battalion*

Bridge and ferry equipment.

*Communications Battalion*

Telephone and radio equipment.

*Supply, Maintenance, and Medical Services*

Motorized equipment.

*Attached Aviation*

Reconnaissance and bombardment units, AA units.

The division has been designed to make the most of the speed, shock action, and protected fire power that

modern technology makes possible. Its core is the tank brigade. All other elements—motorized infantry, artillery, reconnaissance, communications, engineer, anti-aircraft, and antitank elements, attached aviation—are intended to assist the tanks' maneuver, to protect them, to hold ground that they have won, to exploit their successes. The tendency during the past year appears to have been to strengthen the antiaircraft and antitank defenses of the division, to provide more close-support artillery on armored mounts, to shift from light to medium and heavy tanks. Obviously, this is a hard-hitting, highly mobile force, capable of considerable independent action.

The tank brigade may consist of two identical regiments, each equipped with light and medium tanks, or of one medium and one heavy tank regiment. However, in certain divisions the brigade has only one regiment. The tank regiment consists of two tank battalions (each containing three light or medium and one medium or heavy tank company), and one antitank battalion. It also includes engineer, communications, and maintenance elements, and probably has antiaircraft weapons. There are about 200 tanks in the regiment. Apparently each tank is intended to have two complete crews—one in reserve transported in personnel carriers—but it is not certain that this standard has been maintained in practice.

PzKw II (light) as used during the attack on the Netherlands.







PzKw III (medium) has appeared in the Libyan desert as part of Rommel's *Afrikakorps*.

A "normal" division, consisting of the maximum number of units shown above, probably has a strength of 12,000 officers and men, and employs 3,000-3,500 vehicles—tanks, armored cars, automobiles, trucks, and motorcycles. A small division, with but one tank regiment and a corresponding reduction in the support elements, has been employed in North Africa. It is possible that difficulties of supply and maintenance in a region of poor communications have been responsible for this smaller-scale organization. A "heavy" armored division is also reported to be in existence. It is equipped with heavy tanks and is especially strong in artillery and antitank weapons. Light tanks are eliminated except for reconnaissance and liaison purposes.

It is said that the armored division may be employed as a unit, or in certain situations, as two separate forces. That is, the tank brigade may be used wherever supporting tanks are needed, and the support elements as a small motorized infantry division. However, this would not seem to be an efficient way of undertaking missions suitable to other organizations.

An armored corps consists of several armored divisions and motorized infantry divisions, plus aviation. Panzer armies, probably composed of two or more corps, have made their appearance in the Russian campaign.

#### GERMAN TANKS

What are German tanks like? This, too, is a question that at present can be answered none too definitely. To be sure, certain types have been captured and closely studied. But others are known only vaguely.

In general, the quality of the vehicles appears to be good. But they are probably no better than tanks of other powers. It is said that their armorplate is not of

the best (it is probably homogeneous), that joints crack rather easily, that the tracks do not stand up too well. On the other hand, German tanks have been carefully designed to make them tactically effective. Despite the relative inferiority of the steel, their armor is hard to penetrate, for the plates are set at such angles that many projectiles glance off. Moreover, there has apparently been a tendency to rely primarily on the tank's speed rather than on its armor for protection from antitank fire. Observation and communications equipment is believed to be excellent. Some models have power-operated turrets, periscopes, and smoke-screen equipment. In the newer production self-sealing fuel tanks have been installed, as well as fireproof walls between the crew and engine compartments. Collective antigas protection is a feature of certain types. All in all, the German tanks have proved themselves to be efficient fighting vehicles.

But the great strength of the German tank arm lies in its numbers. The emphasis has been on producing large quantities of vehicles just good enough to do their job rather than on making smaller numbers of technically more perfect tanks. For example, homogeneous armorplate is cheaper and easier to make in quantity than the more resistant face-hardened plate. This has entailed a good deal of improvisation, too. For example, when it was discovered that certain tanks were very vulnerable to antitank fire, their surfaces were reinforced simply by riveting extra plates over the spots subject to heavy fire. Thus it was not necessary to withdraw these vehicles wholly from service. In the meantime, no doubt, improved models were being designed and manufactured.

At least five types of German-built tanks are known





Another version of PzKw III, doing business as a self-propelled assault gun, somewhere in Belgium in 1940.

to have been in service since the outbreak of the war. Two other models have been reported. In addition, tanks of French and Czech, and possibly also Polish, manufacture are used. Not only did the Germans capture large numbers of vehicles, but—perhaps more important—they are also availing themselves of French and Czech production facilities.

Essential characteristics of these tanks are shown below. The Germans appear to classify their tanks, not by weight, but in terms of their weapons. Thus a "light" tank is one equipped only with machine guns.

(1) PzKw I. Light tank

Weight: 5.7 tons

Crew: Two

Maximum armor: 18-mm. (0.7 inch)

Armament: 2 light machine guns

Maximum road speed: 32 m.p.h.

Radius of action: 95 miles

(2) PzKw II. Light tank

Weight: 9 tons

Crew: Three

Maximum armor: 20-mm. (0.8 inch)<sup>2</sup>

Armament: 1 heavy machine gun

1 light machine gun

Maximum road speed: 24 m.p.h.

Radius of action: 125 miles

(3) PzKw III. Medium tank

Weight: 18 tons

Crew: Five

Maximum armor: 30-40-mm. (1.2-1.6 inches)<sup>3</sup>

Armament: 1 37-mm. or 50-mm. gun  
2 light machine guns

Maximum road speed: 28 m.p.h.

Radius of action: ?

(4) PzKw IV. Heavy medium tank

Weight: 22 tons

Crew: Five

Maximum armor: 40-60-mm.<sup>4</sup> (1.6-2.4 inches)

Armament: 1 75-mm. gun.

2 light machine guns

Maximum road speed: 23 m. p. h.

Radius of action: ?

(5) PzKw V. Heavy tank

Weight: 32 tons

Crew: Seven or eight

Maximum armor: 60-mm. (2.4 inches)

Armament: 1 75-mm. gun, 4 machine guns; or  
1 75-mm. gun, 1 37-mm. gun, 3  
machine guns

Maximum road speed: 31 m.p.h.

Radius of action: 12 hours

<sup>2</sup>Additional 20-mm. plates may be welded on vulnerable surfaces.

<sup>3</sup>Additional 20-30-mm. plates may be welded on vulnerable surfaces.

<sup>4</sup>Including additional 20-30-mm. plates.



- (6) *PzKw VI*. Heavy tank  
 Weight: 35 tons (?)  
 Crew: ?  
 Maximum armor: 75-mm. (3 inches)  
 Armament: 1 75-mm. gun or 1 105-mm. gun  
           2 20-mm. machine guns  
           4 light machine guns  
 Maximum road speed: 25 m.p.h.  
 Radius of action: 16 hours
- (7) *PzKw VII*. Super-heavy tank  
 Weight: 90 tons (?)  
 Crew: 18 (?)  
 Maximum armor: 90-mm. (3.6 inches)  
 Armament: 1 105-mm. gun  
           2 47-mm. guns  
           4 machine guns  
 Maximum road speed: 18 m.p.h.  
 Radius of action: 16 hours

The *PzKw I* and *II* (*PzKw* = *Panzerkampfwagen* = tank), too lightly armored for modern antitank weapons, appear now to be limited to close reconnaissance, security, and liaison missions. In fact, *PzKw I* seems no longer to be in production. Many of these light tanks, also some mediums, have been converted into antitank and assault artillery weapon-carriers. For major combat purposes, chief reliance is now placed on the medium and heavy tanks, that is on types *III*, *IV*, and *V*. These are very effective vehicles. It is doubtful that the heaviest types (*VI* and *VII*) have been issued to units in any quantity. In fact, it is not certain that more than a few of the *PzKw VII* have been produced.

Experiments are said to have been made in transporting light tanks by airplane. That this is at least feasible was demonstrated by the Russians in 1936. But there are technical difficulties involved, and it is not clear that the advantages would be great unless somewhat heavier and better-armed tanks could be transported in sizable numbers. No real evidence had appeared up to November 15 of this year, that plane-transported tanks have been employed in combat. It is also believed that the Germans have several types of amphibian tanks, vehicles useful for reconnaissance and for establishing bridgeheads. Here again, there is no indication that these tanks have been used in great numbers. The Czech and French tanks most likely to be in use by the Germans have the following characteristics:

- (1) *TNHP*. Light medium tank. Ex-Czech  
 Weight: 12.5 tons (?)  
 Crew: Five  
 Maximum armor: 50-mm. (2 inches)  
 Armament: 1 27-mm. gun  
           2 light machine guns  
 Maximum road speed: 26 m.p.h.  
 Radius of action: 125 miles
- (2) *CKD V8 H*. Medium. Ex-Czech  
 Weight: 16.5 tons  
 Crew: Three or four  
 Maximum armor: 25-30-mm. (1-1.2 inches)  
 Armament: 1 47-mm. gun  
           2 light machine guns  
 Maximum speed: 27 m.p.h.  
 Radius of action: 96 miles

*PzKw IV* (heavy medium) as seen during the Battle of France.





PzKw V-VI (heavy) being landed at Oslo, Norway, during the Norwegian campaign.



(3) *Hotchkiss H 39*. Light-medium tank. Ex-French

Weight: 12 tons

Crew: Two or three

Maximum armor: 40-mm. (1.6 inches)

Armament: 1 37-mm. gun

1 light machine gun

Maximum road speed: 26 m.p.h.

Radius of action: 130 miles

(4) *Renault 1937-38*. Light-medium tank. Ex-French

Weight: 12.5 tons

Crew: Two or three

Maximum armor: 60-mm. (2.4 inches)

Armament: 1 37-mm. gun

1 light machine gun

Maximum road speed: 15 m.p.h.

Radius of action: ?

(5) *Somua S35*. Medium tank. Ex-French

Weight: 18 tons

Crew: Three

Maximum armor: 40-mm. (1.6 inches)

Armament: 1 47-mm. gun

1 light machine gun

Maximum road speed: 29 m.p.h.

Radius of action: 140 miles

(6) *Char B*. Heavy tank. Ex-French

Weight: 31 tons

Crew: Four

Maximum armor: 60-mm. (2.4 inches)

Armament: 1 75-mm. gun

1 47-mm. gun

2 light machine guns

Maximum road speed: 17 m.p.h.

Radius of action: 150 miles

It may be that other types of French and Czech tanks are employed by the German Army. Furthermore, French and Czech manufacturers have been producing for the Germans; the quantity of their output, however, is not known. A number of Polish tanks, mostly light weight, also fell into German hands. These vehicles, if used at all, have most likely been converted into gun mounts. It is reported that the French Char B, too, has been modified into an artillery carrier.

#### THE ARMORED DIVISION IN COMBAT

In the German conception, armored units must exploit to the utmost the speed inherent in tanks. To this end, it is essential to win surprise, to drive forward relentlessly in mass, to give the enemy no time for counter measures. Stubborn centers of resistance are enveloped or by-passed, to be reduced by troops coming up from the rear. Once the armored attack is launched, it must not be slowed down by foot infantry. For that would sacrifice the tank's speed to a dubious security. The armored force is above all an arm of slashing offensive.

But the tank, too, has its limitations. It cannot long hold ground without support. Terrain obstacles—natural and artificial—must be removed or beaten down by supporting troops. It is therefore necessary that these troops be able to move as fast as the tanks. Furthermore, an initial penetration must be hammered at by all arms, maintaining continuous pressure until the enemy's resistance disintegrates and a complete breakthrough is made. It is then, when rear areas are open to maneuver,



# Keep 'em Rolling★

EDITOR'S NOTE: The following is an article prepared by Lieutenant Colonel R. N. Atwell, QMC, Commandant, Quartermaster Motor Transport School, Fourth Corps Area, Fort McPherson, Atlanta, Georgia. It's timely publication may assist Commanding Officers in the initiation of corrective measures within their organization.

## PUT THE BLAME WHERE IT BELONGS

66 **T**ODAY our Army has the largest and finest fleet of motor vehicles that has ever been manufactured and assigned to any military unit. In each vehicle there are a definite number of 'built-in' miles. Whether this be 50,000 or 100,000, it is the duty of every member of the Army to take steps to secure the last mile of this 'built-in' mileage with the least amount of unnecessary repairs. But right now, we find that at least 90% of the vehicles which reach Fourth Echelon Shops are there on account of vehicular abuse, due to careless or thoughtless operation. This can be corrected only through proper education of all concerned; this education, together with the plans for carrying it out effectively, must be promulgated from the top down.

"No commercial fleet operator is ever called upon to have his vehicle perform under the severe conditions of operation that confront the operators of Army fleets of vehicles. Therefore, it behooves us to exert even more care than is usually exercised by commercial fleet operators. We have a more difficult problem at the very start. The majority of the personnel that we receive has had no experience as truck drivers. We put them on vehicles more complicated to operate than commercial vehicles, yet expect them to prove satisfactory. This practice is being carried out in our entire Army. Either the driver is given no training, or the training is so superficial that it is of little value. Hence, we should not be surprised at the thousands of accidents of Army vehicles being dragged into Fourth Echelon Shops. The blame should be placed where it belongs. It begins with the driver and the officer in charge of operation of small fleets of vehicles, as are found in the troop, company, or battery.

"We might as well face this problem now, for if no effort is made to correct existing conditions with the least practicable delay, we will find thousands of vehicles on the dead line a year from now. This is very likely to run to fifty per cent of our total number of vehicles. We must teach our drivers and fleet supervisors to conserve the 'built-in' mileage by careful operation. If we do not, the 'built-in' mileage will be exhausted,

long before we should reasonably expect it, through neglect and careless operation.

"By care in operation, we must include proper driving instruction, close supervision, and immediate corrective measures. A standard driver's test should be instituted for the entire Army. No man should be allowed to operate vehicles without supervision of an experienced non-com or exceptionally well qualified private, until he has qualified and passed the standardized test. The instruction should include not only the usual tests for driving, but should include cross-country operation and tests as to the duties of the driver, before, during, and after operation of the vehicle.

"We have little, if any, trouble with the operation and maintenance of machine guns and other automatic weapons. The reason lies in the fact that we have a systematic plan for the care of these weapons. Let us, therefore, put into effect a definite plan, simplified in manner, which will include the duties of the driver.

"Heretofore, we have called this 'First Echelon Maintenance,' but we can make it sound less complicated by simply calling it 'Driver's Duties.' These duties can be listed as follows:

### *Before Operation:*

- Check engine, oil, water, gas
- Check tire pressure
- Check lubrication against mileage since last lubricated
- Check oil pressure
- Check charging rate of generator
- Check for overloading of cargo
- Have correction made by 2nd Echelon Shop before taking vehicle out.

### *During Operation:*

- Observe oil pressure
- Observe generator charging rate
- Observe water temperature
- Observe engine RPM or tachometer of vehicles so equipped
- Note brake action
- Note engine performance
- Listen for unusual noise in all units.

### *At Halts:*

- Check engine oil for proper level
- Check for oil leaks front, rear axles, transmission and transfer case
- Check for low tire pressure
- Check for loose wheel lugs
- Check for loose parts
- Check for shifting of loads

### *After Operation:*

- Refuel and refill radiator

★This Motor Transport Letter emanated from Headquarters Fourth Corps Area, Office of the Quartermaster, Atlanta, Georgia.



Replenish engine oil to proper level  
 Check water level in battery  
 Wash vehicle, if necessary  
 Check steering gear for unusual looseness  
 Check for oil leaks  
 Check for loose parts  
 Lubricate where required  
 Have 2nd Echelon mechanics make corrections  
 Park vehicle.

"A gummed sticker should be provided to be placed on the cowl of every vehicle showing miles by speedometer reading when the vehicle was last serviced. A suggested plan for a sticker is shown below:

#### SERVICED

<i>Check Made</i>	<i>Speedometer</i>
Engine Oil	
Transmission	
Transfer Case	
Chassis	
Wheel Bearings	
Springs	
Air Cleaner	
Oil Filter	
Shock Absorbers	
Brakes	
Front Axles	
Rear Axles	
Battery	
Steering Gear	
w/s Wiper	
All lights	
Tires	

A sticker of this nature will not only provide valuable information of the driver, but will facilitate inspection by the officer, fleet operator, and the tactical commander.

"In almost every instance, except probably in pool operation, the suggested checking of the several points can be performed under supervision of the officer in charge of the fleet. In fact, it can and should be done 'by the numbers.' However, when vehicles are operated individually, greater care must be exercised in the selection of drivers, and only such men as have demonstrated ability and dependability should be allowed to drive on individual trips.

"All of this is simply preventive maintenance. The fleet operator must put this maintenance on the highest priority of duties in his organization. It is analogous to proper care of animals in horse cavalry, horse artillery, or wagon trains. No one thinks of personal comforts in these organizations until the animals are cared for. Such should be the case in all motor equipped organizations. No tents should be pitched, no camp made, or

mess served until all the vehicles are cared for and 'bedded down.' If such a rule is followed, you will find that the majority of your fleet will be in operating condition all of the time. Wars, such as are being waged today, cannot be won when vehicles are in poor operating condition or are on the dead line.

"Accidents cause a large number of vehicles to be brought to Fourth Echelon Shops. Accidents not only cause the loss of life, loss of a vehicle, and many hours of shop maintenance, but involve hours of investigation and the preparation of administrative reports. There is no such thing as 'an accident-prone driver'; the answer is that the man in question has not learned to drive properly, is not capable of learning, or is simply careless and negligent. In nine cases out of ten, or even more, accidents are due to carelessness or recklessness, and surely recklessness is carelessness. Surveying officers are generally too prone to excuse the driver. If the driver knew he would have to pay the cost of repairs, he would certainly be more careful. In addition to more severe action by surveying officers and boards of investigation, the driver should be 'Grounded'—'One accident and Out' should be the rule.

"Unauthorized use of Army vehicles is doubtless causing an unusual amount of avoidable repairs. In a small town in a maneuver area not long ago at 9:30 PM, it was observed that the streets were filled with parked and running Army vehicles. These included passenger cars, command cars, and trucks. Stores and restaurants were filled with soldiers, but there was not an officer or a Military Police to be found. This condition gave the impression that the authorities were very lax in the control of Government transportation. Vehicles should be dispatched properly for each trip. Inspection for damage to the vehicle should be made by a capable inspector before and after each trip.

"Routine inspections, such as the 1,000 mile and 6,000 mile inspections, must be conscientiously performed. As a matter of fact, inspections by the Motor Officer and Motor Sergeant should be daily routine. The Motor Officer can readily check the condition of the vehicles as to performance during maneuvers by observation of the vehicle climbing a steep grade on the highway. The Motor Officer and Motor Sergeant should personally drive each vehicle once a month. Immediate corrective measures must be taken on report of failures received from drivers and other operating personnel.

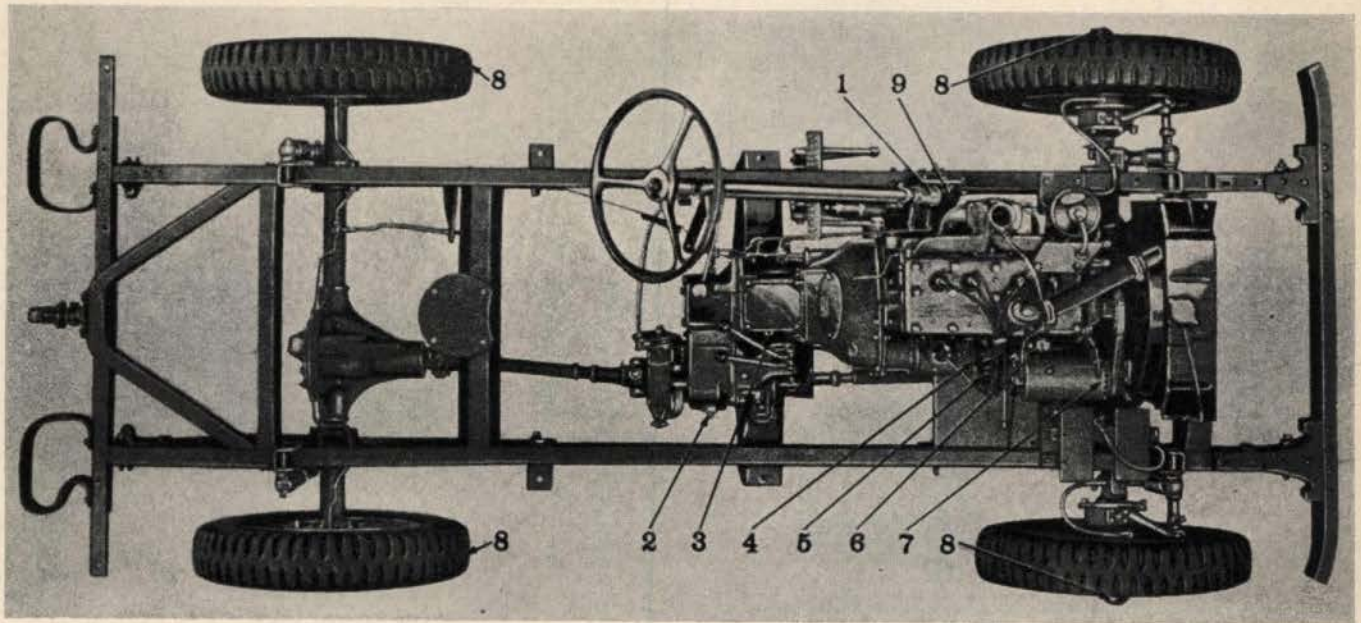
"It is thus seen that the operating personnel can do much to reduce the number of vehicles which find their way into, and many times their end, in the Third and Fourth Echelon Shops. Certainly all the care necessary for long, efficient operation rests with the using services. The care required to properly put back the 'built-in' mileage rests with the Supply Services, namely, the Third and Fourth Echelon Shops."

"KEEP 'EM ROLLING"



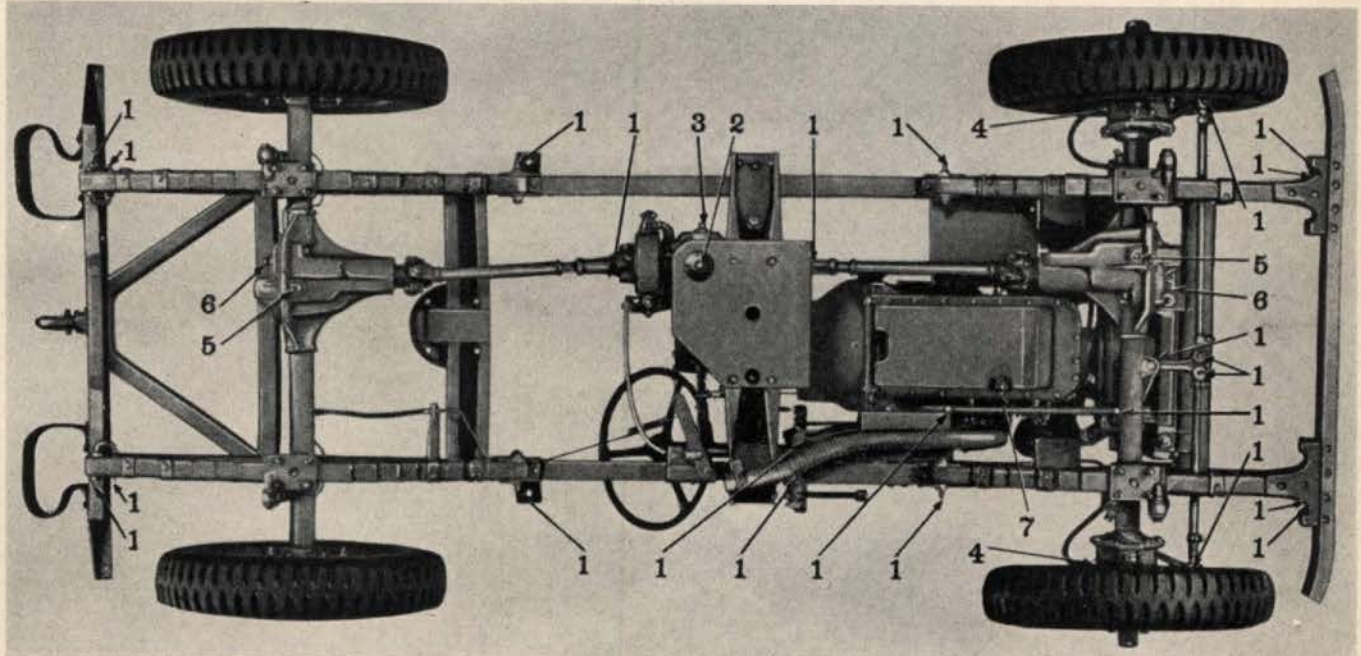
# GENERAL CHASSIS LUBRICATION

—WILLYS MODEL ¼-TON 4 X 4 TRUCK★



CHASSIS LUBRICATION CHART, TOP VIEW—FIG. 1

- |   |   |
|---|---|
| 1. Hydraulic Pressure Fittings—Lubricate every 1,000 miles with Compressor S.A.E. NLGI No. 1 Navy NLGI No. 1 Lubricant.           | 7. Generator Oil Cups—3 to 5 drops Engine oil every 1,000 miles.  |
| 2. Transfer Case Filler Plug—Drain and refill with 3 Pts. S.A.E. 90 Navy 1100, Army 110 <sup>u</sup> Lubricant every 6,000 miles. | 8. Wheel Bearings—Remove and clean and repack every 6,000 miles with S.A.E.—NLGI No. 1 Navy NLGI No. 1 Lubricant.   |
| 3. Transmission Filler Plug—Drain and refill with 2 Pts. S.A.E. 90 Navy 1100, Army 110 <sup>u</sup> Lubricant every 6,000 miles.  | 9. Steering Gear—Remove plug and check every 1,000 miles—use S.A.E. NLGI No. 1 Navy NLGI No. 1 Lubricant.   |
| Transmission Drain Plug—Remove Skid Plate and Plug in Bottom Transmission Case.   | Every 1,000 miles put a few drops of engine oil on all joints and clevises throughout the chassis. Remove Propeller Shaft Universal Joint Bearings—Clean and repack every 12,000 miles with S.A.E. 140, Navy 1120, Army 110 <sup>u</sup> Lubricant. |
| 4. Starter Slip Cover Oiler—3 to 5 drops of engine oil every 1,000 miles.   | Air Cleaner—Remove and clean and refill with 1 Pt. S.A.E. 50 Navy 1100 Lubricant every 2,000 miles.   |
| 5. Distributor Oil Cup—3 to 5 drops of engine oil every 1,000 miles.  |   |
| Distributor Shaft Wick—Under Rotor 3 to 5 drops every 1,000 miles.  |   |
| 6. Engine Oil Filler Pipe—Drain and refill with 5 Qts. S.A.E. 30  |   |



CHASSIS LUBRICATION CHART, BOTTOM VIEW—FIG. 2

- |   |  |
|---|--|
| 1. Hydraulic Pressure Fittings—Lubricate every 1,000 miles with compressor S.A.E. NLGI No. 1 Navy NLGI No. 1 Lubricant.           | inspect and refill with ½-lb. S.A.E. NLGI No. 1 Navy NLGI No. 1 Lubricant every 12,000 miles.  |
| 2. Transfer Case Drain Plug—Drain every 6,000 miles.  | 5. Front and rear Axle Differential Drain Plug—Drain every 6,000 miles.  |
| 3. Transfer Case Filler Plug—Fill with 3 pints S.A.E. 90 Navy 1100 Lubricant every 6,000 miles.                                   | 6. Front and rear Axle Differential Filler Plug—Check every 1,000 miles. Drain and refill with 2½ Pts. S.A.E. 09 EP-Navy Fed. Spec. VVL 761 Class 2 Lubricant every 6,000 miles. |
| 4. Front Axle Shaft Universal Joint Filler Plug—Check every 1,000 miles and add lubricant to level of filler plug. Remove, clean, | 7. Engine Oil Pan Drain Plug—Drain and refill every 2,500 miles.   |

★These charts were furnished by courtesy of Willys-Overland Motors, Inc., Toledo, Ohio.



# Two Cavalry Patrols

## With the Smell of Gasoline

*By Lieutenant S. McC. Goodwin, 6th Cavalry*

THE WARS OF LOUISIANA 1941 will long provide the subject of many bitter controversies, the source of examples both horrible and perfect, the basis of many mimeographs of explanation and correction. Without an attempt to intensify any of these issues but in an effort to present an interesting set of experiences as recorded by a junior officer of cavalry the following accounts are written. Both are taken from the soiled notebook of the officer in question, pages written in pencil, in ink, or for one whole day with a "Phano" china pencil. Many of the inked sheets had been washed by rain or the seepage of human perspiration through a khaki shirt pocket. Some had been written in a moving vehicle shown by the scarcely legible long-hand. Arranged in chronological order by their author just as he jotted them down, these notes were certainly not intended for publication. But at our troop mess table one evening, just as the gasoline lantern was lit, we noted the author chuckling over his notebook as he scribbled in a few additional remarks. Our inquiry led to a chance to hear one of the stories those notes could unfold.

The author of that notebook had twice been designated to command a distant officer's patrol, mechanized. For those who doubt that romance is disappearing from the life of gasoline cavalymen, we present these narratives as an argument. Severing all connections with his regiment, save the power of radio to breach the gap, this officer accompanied by four men on his first trip, two on his second, struck deep into enemy territory before infantry battle lines were formed. Roaming wide across lines of communication, these patrols searched for information vital to the commanders of higher echelons.

But here are the narrative accounts prepared from that patrol leader's notebook. A few preliminary words to orient the general situation have been added before each account.

DISTANT OFFICER'S PATROL NUMBER TWO,  
FIELD EXERCISE IV ARMY CORPS,  
AUGUST 19-20, 1941

The heights of WINNFIELD were the terrain objectives of the invading Red army. By superior air and naval strength that army had made a landing on the LOUISIANA shore of the GULF OF MEXICO. Bridgehead troops had immediately and rapidly begun a push to the north between the MISSISSIPPI and

SABINE RIVERS. The advance was unopposed except by unfriendly natives until the line of the RED RIVER was reached. On August 18 the Blue army was known to be concentrating near SHREVEPORT and EL DORADO, ARKANSAS. On 18 August advance elements of Blue force were reported by Red air corps to be occupying the high ground west of WINNFIELD. The 6th Cavalry was moving in advance of the IV Army Corps, Red, composed of but two divisions at this time, the 4th (triangular, motorized) and the 43d.

"My patrol completely equipped in accordance with the several experimental loadings performed in the regiment, spent the night of August 18-19 restlessly sleeping by our two quarter-ton trucks parked not more than two hundred yards from the dim, brown glow of the S-3 tent. We were ready, alerted, as were two other patrols completely equipped parked beneath the scrub pines near by. My radio equipped car was a Willys recently received by the regiment; the SCR 245 mounted in the rear seat was also new. The second car was an American Bantam, one of the first experimental models that in turn had borne the brunt of many experiments performed on it. Without confidence in the ability of that car to withstand punishment, I selected a driver who was a graduate mechanic fresh from the Cavalry School. And in command of this car, as my place was in the radio car, I had chosen an experienced motorcycle scout corporal. My radio operator and the driver of the radio car, which I shall hereafter refer to as car number one, were men selected and assigned to that vehicle for their proven ability as specialists.

"At 6:30 that evening the general situation had been presented to the assembled officers of the regiment. At 3:00 AM I bumped my head on the tree root that was my pillow as I awoke with a start at the roar of a cold motorcycle engine. Assembling around the S-3 tent with many a yawn were all organization commanders.

"Soon we three patrol leaders were called into the source of that brown glow of the tent. Bent over a large map of the area the commanding officer issued his order to each patrol leader. This order to me, in part, was as follows:

- a. (1) General situation—No change.
- (2) Enemy force estimated one division reported holding high ground west of WINNFIELD along Highway 84.



- (3) IV Army Corps, less one division, advancing north along axis Highway 167.
- b. The regiment moves at 5:00 AM to reconnoiter high ground west of WINNFIELD to determine strength, identification, disposition of any enemy forces there.
- c. Patrol number two, Lieut. Goodwin:
  - (1) Zone: West boundary, WILLIANA, ATLANTA, GUM SPRINGS, thence north to DUGDEMONA RIVER.  
East Boundary, WILLIANA—State Highway 232—COLGRADE—RINGWOOD (all inclusive).
  - (2) Report location, disposition, and movement of enemy encountered.
  - (3) Moving in the right of zone attempt to swing around and determine location enemy left (east) flank believed near WINNFIELD. Patrol number 3 swinging farther to east will cooperate in an attempt to locate flank.
  - (4) As soon as practicable answer questions:
    - (a) Is PACKTON occupied? If so send message XX-Yes, if not XX-No.
    - (b) Is COLGRADE occupied?
    - (c) Is R.J. U.S. 84-LA 234 occupied?
    - (d) Is RINGWOOD occupied?
  - (5) Cross O P L R SUMMERFIELD—WILLIANA—BREEZY HILL at 4:40 AM.

- (6) Cross back into friendly territory and locate regimental C.P. not later than 21 August.

d. Your patrol is equipped for three days. Obtain breakfast at troop kitchens before departing.

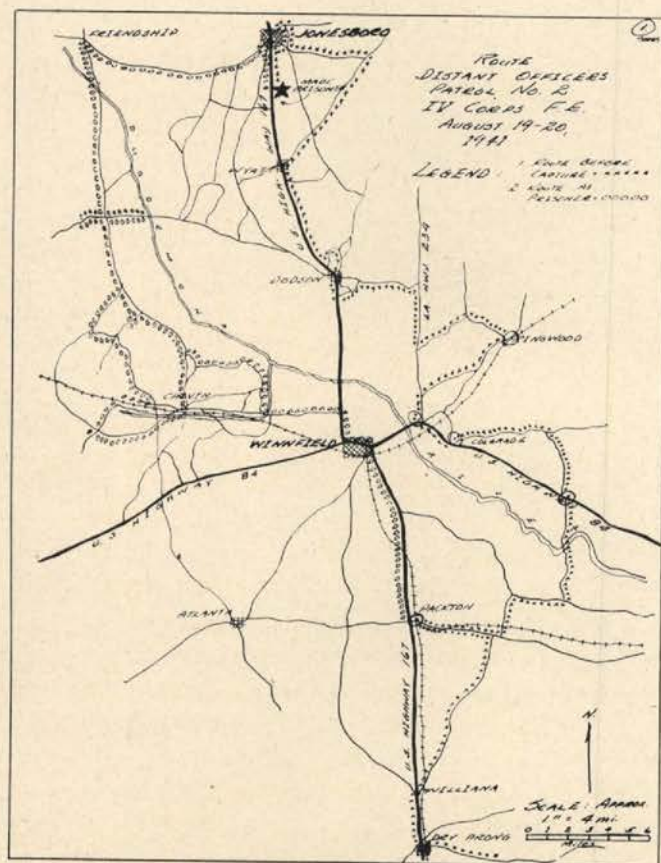
e. Communications as instructed. Any questions? Move out.

"The patrol crept out of the C.P. now under strict blackout discipline at 4:00 AM. Under the cover of the railroad station at DRY PRONG a final inspection was made of all equipment and orders were issued to the patrol.

"A certain tense anticipation was obvious in each man's enthusiasm. At 4:25 we reached the O.P.L.R. and waited in the shadows of a church yard for the control time of 4:40 AM. The faintest streaks of the dawn were on the eastern horizon as our two engines began purring northward. Car number two preceded, cautiously moving from curve to curve, signalling my car to follow by a flash from a shielded light.

"We made for PACKTON moving as fast as possible. Two hundred yards short of the grade crossing there, the patrol halted. I sent the scout corporal forward to move through the ditch along the road to an observation point while I covered his advance, leaving both cars with a driver ready to move in either direction. A vertical flash from the scout corporal's light indicated no enemy in sight. I moved forward. PACKTON evidently consisted of nothing more than a railroad station and a switch operator's house. As I reached the railroad a column of motorcycles and scout cars passed on the main highway 500 yards to the west. This noise must have warned a sentry of the enemy outpost platoon sleeping on the station platform. Suddenly I could distinguish the figures of drowsy men frantically folding blankets; could hear the starting motors of cold engines. A weapons carrier pulled away from the one road leading into the station.

"Quickly I realized the danger of my situation—that weapons carrier would pass my halted Bantams. The faint light was still in my favor. I called to my scout to follow as I ran toward the cars. As we pulled away I saw a second weapons carrier moving. The first had not seen my cars and apparently fled to the west into the Blue column still passing on the highway. The second carrier turned in my direction. We had a 300-yard lead and a knowledge of the road, having just travelled it. My radio operator frantically sent the message 'XX—yes 5:30 A.' I remembered a country lane where I considered halting at our first crossing of the east-west logging railroad into PACKTON. We turned into that lane, traveled 'til a slight curve cut off observation from the highway, and backed both cars into the woods off the trail ready to jump behind our possible pursuer. Just then a roar and a cloud of dust passed on the road; two minutes later my scout now observing at the entrance to the lane reported a weapons carrier passed



Sketch 1



moving west. Our mission accomplished here, the next objective was COLGRADE.

"The route selected for all movement was over unimproved roads throughout this mission. Crossing Highway 84 was ticklish business. A dismounted reconnaissance here disclosed that we had evidently been passed by a detachment from one of the advance reconnaissance troops indicated by a familiar, small, route-marking arrow. We continued, car number two still preceding. Light was now good; the sun was rising. Farmers milking their cows offered no information of military vehicles or men in the vicinity. Among the several churches of COLGRADE there were no signs of any activity. A short distance to the junction of Highway 84 and 234 we found only a filling station, as yet unopened.

"While moving toward RINGWOOD we received a message 'to push aggressively to the northwest to locate enemy's east flank.' As I was near RINGWOOD at that time, I elected to complete my initial mission. Just south of the village I passed a platoon of 'Troop F,' 6th Cavalry, whose reconnaissance had led them directly to RINGWOOD. There was no Blue activity observed or reported in the vicinity. Arrangements were made with the scout car platoon commander to relay my messages to the regiment should my patrol go beyond radio range of the C.P.

"I then plotted a route on the map which would lead to the northwest touching Highway 167 at points from DODSON to RUSTON, then turn southwest behind the DUGDEMONA RIVER. We moved rapidly, bounding from ridge to curve to crossroad. Car number two preceded my car by about 300 yards communicating by visual signals. Our speed averaged about 25 m.p.h. Radio contact was still excellent. The spirit of the patrol was now determined; free of that earlier tenseness.

"Cautiously we entered DODSON concealed the cars among piles of rubbish and inquired among the unfriendly inhabitants. But there was no trace of the enemy here. WYATT was similarly reconnoitered and similarly failed to yield any information. These negative reports tended to make the patrol less cautious as we neared JONESBORO, a town of about 3,000 inhabitants.

"Entering the village from the southeast I selected an open lumber yard as concealment for my cars and moved to position to cover by fire the dismounted reconnaissance of my scout corporal. He returned with negative information. In the meantime I was told by a young boy of high school age that there was still one Blue car and some men concealed in the center of JONESBORO. He would meet me in the center of town and show these Blues to me but he flatly refused to ride in the car with me. I became suspicious but nonetheless inquisitive. Moving cautiously around the town without seeing a sign of military activity, we reentered, this time from the west. From a position in

defilade behind the slight hill on which the parish courthouse was situated I could observe most of the main street. Ah! there in the deep shadow of a narrow alley was a Blue weapons carrier partially concealed by the curious civilians lingering around it. As I reached to get my field glasses the enemy weapons carrier moved forward. We had been seen.

"Quickly I indicated that the two cars were to separate and run for it. With the radio car I turned south on Highway 167. Madly the cars raced down the straight concrete strip as gradually the enemy closed the gap between us. Amidst an exchange of Tommy gun fire, I ordered my driver to jam on his brakes, pull over to the right shoulder, and as the heavy enemy car passed us to spin around in the road and run in the opposite direction. That move caught my pursuer by surprise. I gained about 500 yards, enough to try slipping off to a side road. Selecting a logical place for a lane we turned off to the east. But my choice was poor. Two hundred yards off the highway we ran into a barbed wire fence running through a heavy bog, banked by fallen timber. We were caught. I vaulted the fence but slid gracelessly in the thick mud as I landed on the other side. I picked myself up with the pistol of my pursuer over my shoulder. I was his prisoner. My radio operator had remained at his post and as our fate became obvious he sent this message: 'Patrol now being captured south JONESBORO' at the same time he safely concealed all valuable communication instructions in his possession. The driver attempted to return the fire of the enemy as they closed in upon his car.

"Our captors were evidently part of an isolated combat patrol assigned the task of ambushing any Red troops entering JONESBORO. They returned us under guard to that town. We then moved west to the nearest crossing of the DUGDEMONA RIVER. Here I was ordered to accompany the Blue patrol leader leaving my car and men under guard on the east bank of stream. I travelled north with my captor along the DUGDEMONA perfectly free to observe all installations on that line. I was taken directly to the enemy, infantry division command post at CALVIN, examined by the division G-2, and sent to the forward echelon prisoner enclosure. Several hours later I was evacuated to the rear echelon. At all times I was very courteously treated but viewed as a rare specimen of some strange animal by all who observed my marked uniform.

"At 6:30 PM the evening of August 19 I began a trip back through the Blue infantry lines to be exchanged as a prisoner of war in WINNFELD. Again I was permitted to observe all installations passed. At 9:30 PM I was unconditionally released and reported immediately to my regimental commander.

"In the meantime the driver and operator in car number one (radio-equipped) took advantage of a fortunate situation. Their guards being weary infantry soldiers fell asleep and thus permitted my men to seize



their arms, obtain the keys to the car and flee. They later joined the advance reconnaissance platoon which I had contacted in RINGWOOD and had the satisfaction of seeing this scout car platoon pursue and capture the remnants of the Blue patrol that had made us their prisoners. Car number two avoided capture until about 2:00 PM when a mechanical failure of the fuel pump let them fall into enemy hands north of JONESBORO. The driver and car were held prisoners for thirty-six hours. My scout corporal was committed to the enemy field hospital as a prisoner, ill with influenza."

DISTANT OFFICER'S PATROL NUMBER ONE,  
III ARMY FIELD EXERCISE  
SEPTEMBER 5-6, 1941

The initial success of the Red IV Corps was short lived. As a bridgehead force the Corps had stepped beyond supporting a distance of the III Army and early in September was attempting to force a breakthrough to the south in an effort to escape virtual encirclement. On September 4, the Corps succeeded in crossing to the south bank of the RED RIVER near ALEXANDRIA, LOUISIANA.

"The 6th Cavalry was bivouacked on the evening of September 4, 1941, at INGLEWOOD. At 6:00 PM the commanding officer explained the situation to his assembled officers. Three officers' patrols each equipped with a single quarter-ton truck (Willys, radio equipped) were alerted at this time. The orders to the regiment arrived from Corps at about 6:45 PM. An hour later I was called to the C.P. and issued a verbal fragmentary order in part as follows:

- a. Familiarize yourself with the general situation.
- b. (1) Move behind this G Troop section, down Highway 26 to BAYOU COCODRIE. If that outpost section is in contact, request instructions. Be prepared to move both east and west along the bayou.
- (2) Determine the "what and where" of any enemy contacted. Be especially alert for any part of the armored force. You are concerned with large groups.
- (3) Once south of BAYOU COCODRIE, make ST. LANDRY as quickly as possible. Watch to southeast. Move to VILLE PLATTE and there request further instructions. Check Highway 71 to MORROW. Do not move on main highways.
- (4) Contact must be maintained once made. Use radio relay through advance reconnaissance units if necessary. Telephones are available. Watch for air contact.

c. Any questions? Move out.

"Unimpeded by a second car that had proven of no particular value on my first patrol other than a convenient method of carrying supplies, I departed from

the command post at 8:15 PM; with a heavily loaded car, the same driver as on my first mission, a new radio operator.

"We crossed through the local outpost line and reached the picket at BAYOU COCODRIE at 9:30 PM. This was swampy country where rice and sugar cane were the main products grown in the rich soil. Most of the roads were virtual causeways through swamps and tall fields of sugar cane rising eight to ten feet. The moon was full; a romantic night from the pages of fiction. The Red platoon at BAYOU COCODRIE had made no contact up to this time. We attempted here to make a radio report in accordance with a schedule arranged with the communications officer. Contact was impossible. Throughout this patrol radio contact was extremely difficult. Local electrical disturbance and constantly fading signals overcame the most persistent efforts of my radio operator on all but two occasions. We cleared no incoming message during this mission.

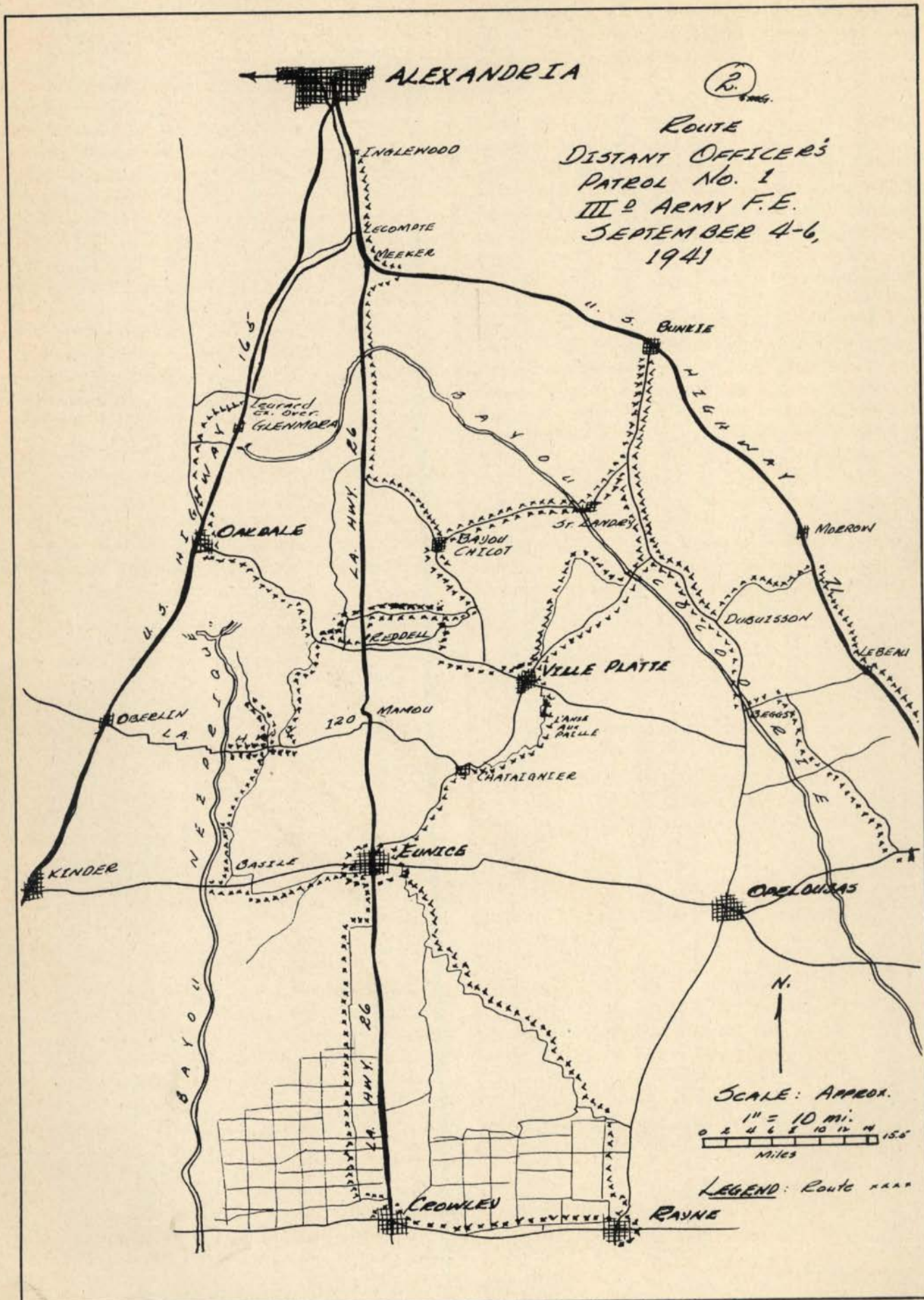
"During the entire night of September 4-5, 1941, we cautiously searched from village to village moving generally southeast. At no time did we contact any Blue troops or receive reports of their presence from friendly natives.

"A protracted halt was made in VILLE PLATTE at 6:30 AM. Here we erected a flat top antenna in an effort to establish radio communication. At 7:20 AM a signal was discerned in the static. At 8:15 while still attempting to clear a message, a section of enemy scout cars slowly and deliberately cruised through VILLE PLATTE on Highway 22, moving southeast. We were not observed.

"I verified the direction of movement of that enemy section, apparently toward OPELOUSAS. With the possibility that this single detachment might be part of a reconnaissance screen covering a mechanized movement west to east deep in this enemy territory, I turned again to the south with EUNICE as my objective via L'ANSE AUX PAILLE and CHATAIGNIER. We were deep in French Louisiana farmlands amidst a wonderfully hospitable people who were fascinated by our strange vehicle. But we were the only 'soldats' they had seen.

"We reached the vicinity of EUNICE at 11:30 AM. While successively checking the highways into and out of the town, a convoy of three trucks was observed moving into EUNICE on Highway 190. A position of observation about seventy-five yards south of Highway 190 was selected in the yard of an unoccupied farm house. Here for three hours we maintained constant observation on the highway. We were on a rear cross-communication route. Cargo trucks passed at irregular intervals going in both directions. Few actual troops were moving on this route. A message reporting the patrol's position was cleared at 1:00 PM just after a brief thunder shower. At 1:30 PM I left my driver in observation, and with the radio operator moved via section





Sketch 2



line roads to RAYNE and CROWLEY. Both places were unoccupied; the inhabitants of both had seen only an occasional army truck; were startled by my inquiry about tanks, 'army tractor.'

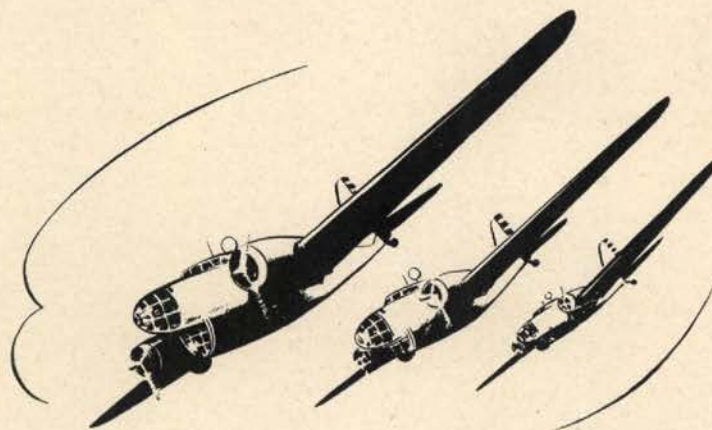
"On returning to EUNICE each member of the patrol was able to sleep for an hour. As darkness fell we began slowly moving to the west parallel to Highway 190. Unexpectedly at BAYOU NEZPRIQUE we were challenged by a sentry. Our answer was a quick turn into a country lane. A dismounted reconnaissance revealed a strong road block at the bridge over the bayou. I elected to try other possible crossings to the north. An indicated crossing north of BASILE ended in an impassable swamp. The crossing of Highway 120 was held by an enemy squad. We attempted to make a prisoner of drowsy sentry at this bridge, but he awoke with a start sounding the alarm as we fled to the east. We found a motorcycle section guarding the bridge over the east fork of the stream which forms the headwaters of BAYOU NEZPRIQUE. The road was impassable into and beyond their position. Exhausted, we concealed ourselves behind a country school house and each man slept for three hours.

"Soon after resuming our route to the north at dawn we emptied our last two and one-half gallon reserve tank of gasoline into the main tank. Our range was at most seventy-five miles. We were, to the best of my knowl-

edge, that far from the nearest friendly troops. Certainly the time had come to return to friendly territory. We began a slow movement northward.

"At BAYOU CHICOT we halted to again attempt communication with the regiment. As my operator tried to pick the code from the roar of static, I learned from natives of the concentrations of Blue troops that had been in this vicinity the day before. No Red troops had been seen. So we started northeast toward INGLESWOOD via familiar roads through ST. LANDRY.

"Unknown to me as I travelled cautiously along rutted, country lanes, an armistice was signed at 9:00 AM that day, September 6, 1941, by the commanders of each force. We stalked a squadron of portée cavalry until 3:00 PM that afternoon purchasing gasoline for the purpose. At 5:00 we learned of the armistice. At 7:00 PM I fortunately located a vehicle from the 6th Cavalry in ALEXANDRIA and received directions to the command post which had been forced back to the south bank of the RED RIVER. In forty-eight hours my patrol had roamed 504 miles through hostile lines reaching at one time a position opposite enemy corps command posts. All information of armored forces reported was negative and correctly so. All armored units of the Blue army were employed west of the zone of my patrol."



### Dive Bomber Tactics

A few words are necessary on the tactics employed by the power-dive bombers in attacking objectives protected by antiaircraft artillery. A group of five airplanes, two of which are power-dive machines, approach the target at an altitude closely within maximum range of the antiaircraft fire. The power-dive bombers then immediately descend upon the target, acting as if they had been hit by the antiaircraft fire below. The fire of the antiaircraft artillery is then concentrated on the airplanes continuing their flight—meanwhile the power-dive bombers complete their bombing missions.—*Krasnaya Zvyedza*, Moscow.



# Evolution of the Horse\*

*By Captain Robert A. Boyce, Veterinary Corps*

THE horse came into being about 55 million years ago. The possible progenitor of the horse is the Phenacodus, a 5-toed creature about the size of our common cat. The probable progenitor is the Eohippus, commonly spoken of as "The dawn horse." This horse was about the size of a fox, and had 4 toes in front and 3 behind. A vestige of the fifth toe was found in front. This horse roamed both the Eastern and Western Hemispheres.

Forty million years ago, the horse was about the size of the Whippet, and all visible trace of the fifth toe had disappeared.

Thirty-five million years ago, the horse was walking on 3 toes, front and hind. A vestige of the first digit was found in front. This horse was about the size of a sheep and had a span of life of only about 6 years because of his low-crowned teeth. It has been noted that the second and fourth digits were rapidly decreasing in size and that the third was increasing in size.

About 19 million years ago, there was a marked increase in the size of the second and fourth digits as the horse was living in marshy lands and these digits were coming back into use.

Then about 10 million years ago, there was again a marked decrease in the size of the second and fourth digits. Also, the teeth were higher crowned, which increased the span of life of the horse. By this time the height had increased to about 3 feet. Then all of the horses of the Eastern Hemisphere died off and the entire horse population of the world was here in North America.

About 7 million years ago, the horse started walking on 1 toe (the third), and the second and fourth became mere splints. So, here we have the progenitor of the modern horse.

In the beginning of the fourth Glacial Period, about 250,000 years ago, many of the horses migrated to Asia and North Africa by crossing over the stretch of land that is now covered by the Behring Strait; some wandered south to South America. Those remaining here perished in the snow and ice that became several hundred feet deep. All that went to South America soon died off, but those that migrated to Asia and North Africa prospered. So now we have the entire horse population of the world in Asia and North Africa.

About 2000 B.C., the Lybians were breaking and training the horse of North Africa. This horse later became known as the Arabian, and has been used to improve the common horse of Europe for centuries.

At the present time there is only one group of wild

horses in the world, the Equus Przewalsky, found on the steppes of Russia. This is a blocky, dun-colored horse, standing not more than 13 hands, and has a grey beard.

The so-called wild horse or western bronc of this country is not a true wild horse but a modern horse brought to this country by the Spaniard and set free. It is known that horses were brought over by Cortez in 1519, De Vaca in 1527, and De Soto in 1541. These horses were Barbs that were bred in Spain.

Our modern horse still carries some vestiges of the pre-historic horse, namely the chestnuts, the splints and the ergots.

Man has brought about great changes in the conformation and temperament of the horse through his selection of sires and dams, and has thus established various breeds of horses. The oldest breed known is the Arabian; principal colors bay, brown, chestnut and grey. Black is a very rare color, and dun is unknown; seldom is higher than 14/2 or 14/3, and weighs from 850 to 950 pounds. The tail is set very high and carried to one side; handsome head, with broad forehead, large kind eyes, straight or concave face line, large nostrils, well carried ears and the head is carried a trifle high. His hocks are the chief point of weakness.

The Thoroughbred is the English running race horse, originated about 1660 when Charles II imported the Royal or Barb Mares. The other foundation horses of the breed are the Byerley Turk, Imp. 1689, the Darby Arabian, 1706, and the Godolphin Barb, 1724.

This breed represents the speed type in the extreme, having a straight face line, long lean neck, walk and trot low and pointing and has been used to improve all breeds except the draft. Bay and chestnut with more or less white markings are the common colors. Typical weight is about 1000 pounds and stand from 15 to 16 hands.

The Standard Breed is the harness racing type. Messenger and Justin Morgan were the progenitors of this breed which was founded on speed about 1790. To be registered as a Standard Breed the horse must trot a mile in 2:30 or pace a mile in 2:25. These horses are of all colors, sizes and shapes, but a uniform type is gradually being evolved.

The Hackney Breed was founded about 1760, by Shales, Son of Blaze, a Thoroughbred out of a hunting mare. This was formerly a road horse, but is known chiefly as a harness show horse. This breed is characterized by short legs, rarely standing over 15/3 hands. The head is square in outline, deep in jowl; neck well crested and heavy, and a heavy forehead. High flexion of knees and hocks. Chestnut color with flashy white

\*Courtesy, *The Veterinary Bulletin*, July, 1941.



markings all around are most common, although bays, browns, blacks and roans are acceptable.

The Morgan type, founded by Justin Morgan, was foaled in Springfield, Massachusetts, in 1789. This was a small horse, about 14½ and weighing 950 lbs. The colors of this breed are bay, brown, and black and chestnut; stands 15 hands or under; very compact; short, strong back, a broad head, short heavy neck, short legs.

The American Saddle Breed horse, during the days of the Western frontier was a source of excellent transportation, but now he is used chiefly as a show horse. This breed of horse was founded by crossing a Thoroughbred top line with native saddle mares. This horse is characterized by its "stand-up" appearance; has a flashy way of moving, with head and tail carried high.

The best known breeds of the draft horse type are Percheron, Belgian, Clydesdale, Shire and Suffolk. From 55 B. C. to the 18th century the draft horse was the war horse of Europe; first used to pull the chariots; later to carry infantry troops to the field of battle, and later still as a cavalry horse. Due to the fact that when used as a cavalry horse the mounted men were clad in heavy armor, and later both horse and rider were pro-

tected with armor, it was necessary to have horses of great size and strength. Up to the 18th century draft work was done by oxen or horses unfit for war service, but during the 18th century the draft horse was used as a beast of burden and has been used as such ever since.

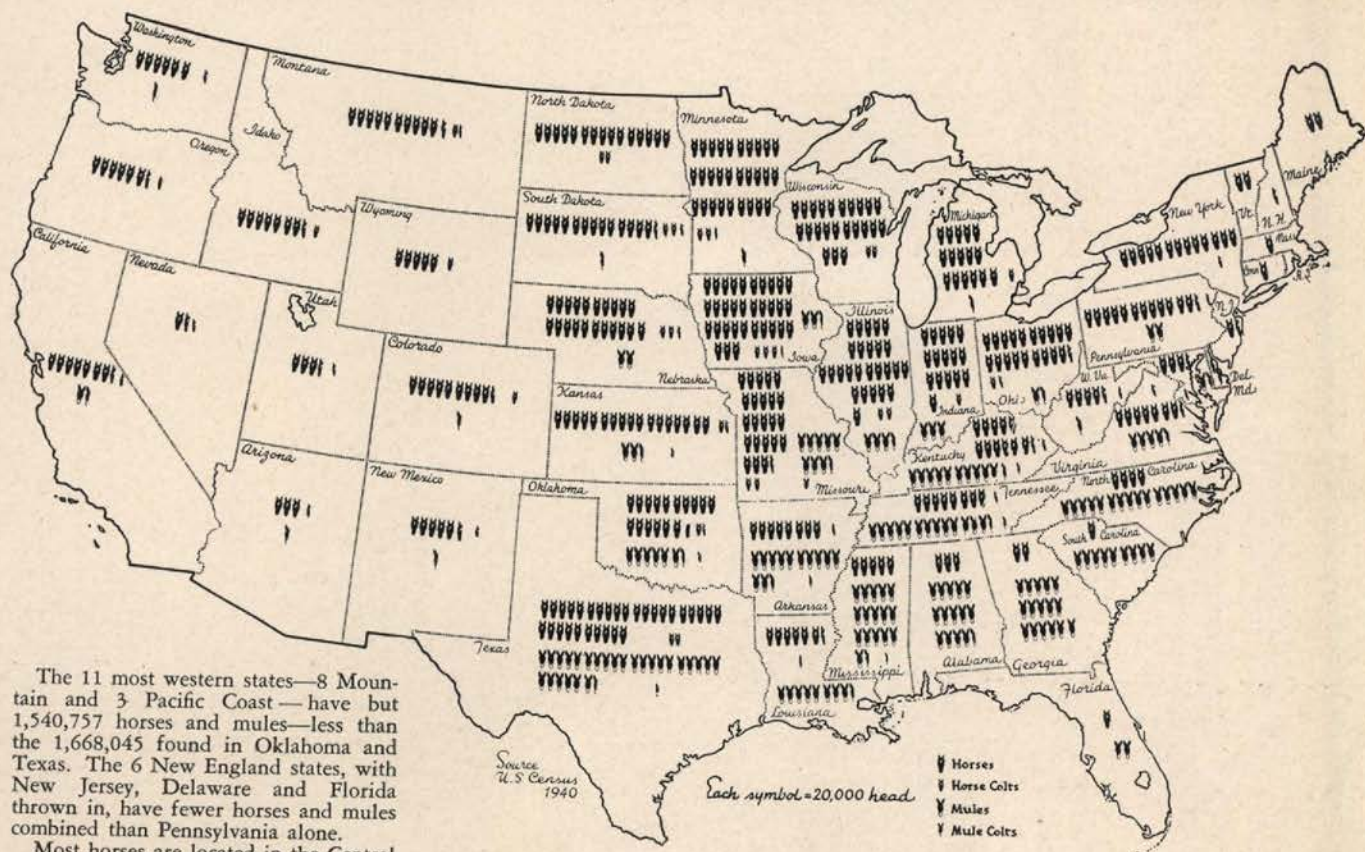
The Shetland pony is really a draft horse type, but his growth has been stunted for centuries because of poor forage. The standard height of this pony is 42". The colors are solid, black or cinnamon brown being most common. Many ponies of this breed are of very poor conformation.

The Western Bronco, which is really a Spanish Barb is small, wiry and tough.

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## Distribution of Horses and Mules





# Purpose of Remount Service Breeding Plan

*By Major F. L. Hamilton, 2.M.C.\**

THE REMOUNT SERVICE, a Division of the Quartermaster Corps, is an integral part of our National Defense Machinery. As such, the activities of the Remount Service can be justified only when they contribute directly or indirectly to the preparedness of the Nation. The Army Breeding Plan is a part of long range preparedness planning, looking to future as well as immediate security. These long range plans, in the case of the United States with its peculiar geography and uncertain fields of military operations, must be general and all-inclusive in the extreme. It is impossible to predict where, when, or under what circumstances the Nation might be compelled to fight. It is not enough for the people in the United States to follow the fashion of the present times resulting from a deliberate choice of time, place, and terrain by aggressor nations, and to prepare mechanically to the exclusion of all else. It is necessary also, in a small way, looking toward the innumerable possibilities of the future, to give some thought to horse preparedness.

That is the mission of the Remount Service and the purpose of its breeding plan. In the operation of this plan there is, of course, a limit to what can be done. Stallions can be supplied to civilian breeders; information can be disseminated; and some encouragement can be given breeders through limited purchase of military horses. Thereafter, one relies, in accordance with God-given democratic practices, upon the cheerful, voluntary work of civilian associates to produce and to use good horses that might be made available to the defense forces in an emergency.

The Remount Service makes no pretense of dictating to any state or community the kind or type of horses to use or to produce. It is recognized that the military service must, to a large degree, adjust itself to the economic life of the nation at peace, and that the Army must in wartime adapt to military uses the livestock that farmers and ranchmen have produced in the course of their normal peacetime endeavors.

Suitable military horses are to be found in practically all sections of the country and in use in a great variety of ways. Pleasure horses, hunters, race horses, polo horses, stock horses, light farm horses; all are readily absorbed by the military service, provided they possess in common those qualifications so essential to any good light horse: They must be good tempered horses and they must be durable.

Temperament is occasionally the result of breeding, but often it is a reflection of the temperament or the horsemanship of owners and handlers. Durability is the result of type and conformation, raising, and of training. If the type of the horse is such that it wears a saddle comfortably; if it is so shaped that it is naturally balanced and light on its feet with weight on its back; if it travels straight and freely at the walk, trot, and gallop; if it has been so raised that at maturity it is a horse of substance and strength; and if its respiratory and circulatory systems have been developed through intelligent work and use, it is almost certain to be a durable horse.

With the hope of improving these qualities, the Remount Service places mostly thoroughbred stallions\* with civilian agents. This is done with the firm conviction that the thoroughbred is the proper foundation from which to develop light horses for any particular or general purpose. The past proves it so. Practically all the light horse breeds, worthy of a name, have their tap roots in thoroughbred ancestry. *Messenger*, a thoroughbred, was the foundation sire of standard or trotting bred horses. *Denmark*, a thoroughbred, fathered the famous American saddle horse. *Steeldust*, all controversy aside, was probably a thoroughbred or nearly so. The same may be said of *Justin Morgan*.

These facts, together with the great improvement in the horses of this country during the past twenty years, resulting from the use of Remount Stallions, furnish ample physical evidence that the Army's breeding plan is sound.

There is an awareness at this time, however, of an unsatisfactory trend. It now becomes apparent that in some sections there is a limit to the number of thoroughbred crosses that can profitably be put on native mares. Originally, the thoroughbred springs from small, slight, desert-bred horses that in their natural habitat are little more than ponies. Through generations of forced feeding and care, almost to the point of pampering, the thoroughbred has come to have considerable size. Deprived of this feed and care and left to make his own rough way the breed is likely to revert to type and become small and weedy.

To derive the maximum benefit from these stallions;

\*The Remount Service at present has 724 stallions dispersed throughout the United States which are used in carrying out the Army Horse Breeding Plan. As to breeds, these stallions are divided as follows: Thoroughbred, 686; Arabian, 18; Morgan, 15; Saddlefield, 4; and Cleveland Bay, 1.

\*Officer in Charge, Southwestern Remount Area.





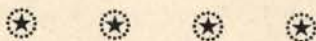
Every horse in this picture was sired by a Remount stallion.

to develop a line of horses suitable to local needs; to produce horses that will find a reasonable market; and to help in placing a military reserve of suitable horses in the country—individual breeders should look farther ahead. While the Remount Service can continue to furnish stallions, the mere pouring of blood in at the top will not insure the production of good horses. Selection of brood stock, proper matings, and a long period of adaptation, blending, and absorption is necessary if anything worth while is to be produced.

Strangely enough, the improvement resulting from breeding to thoroughbred stallions is most obvious and most encouraging in the first cross. Bred to a big,

straight, roomy mare, the resulting half-bred generally shows an unbelievable improvement. From there on, the number of crosses that can be made with profit and pleasure will depend almost entirely on the amount of intelligent care and feed that can be given to the growing colts; especially during their first two winters.

It is the hope of the Remount Service that those who take pride in the ownership of nice horses, and who have the experience and facilities necessary to produce them, will make full use of Government stallions, to the end that the light horses of the country may become military assets available to the armed forces in an emergency.



## Pure-Bred Horses Donated to Army

**D**ONATION of 12 pure-bred Arabian horses to the Army by the Arabian Horse Club of America, Chicago, Illinois, was announced recently by the War Department. The horses were delivered to the Robinson Remount Depot, operated by the Quartermaster Corps at Fort Robinson, Nebraska.

Eight mares, two fillies, a stallion and a colt were given to the Army. The step was taken, according to the club, not only to assist the national defense effort, but also to perpetuate the Arabian strain which is being seriously threatened by the European War.

By careful breeding for more than 3,500 years the Arabian has developed as a superior type of saddle horse. Arabian blood is the foundation of the thoroughbred and other modern breeds of riding horses. Mares mature when about five years old and stallions when six years old, but they often live to be 30 years old.

Arabian colts are considered by horsemen as easy to train. Courageous and high-spirited, the Arabian horse usually is unafraid of men, noises, and other animals.

Members of the Arabian Horse Club of America who made donations and the names of the horses are:

From Mr. Henry B. Babson, Chicago, Illinois, bay mare, *Fadahman*. From Mr. J. M. Dickinson, Franklin, Tennessee, chestnut mare, *Babolna* and chestnut colt, *Mazeppa*, foal of 1941. From Mr. A. W. Harris, Chicago, Illinois, grey mares, *Horma* and *Kehefe*; bay mare, *Niht*; and bay stallion, *Katar*. From Mr. W. K. Kellogg, Pomona, California, grey filly, *Sonata*; chestnut filly, *Rifnetta*, and chestnut mare, *Surana*. From Mr. Roger A. Selby, Portsmouth, Ohio, chestnut mare, *Mirzaia*. From Mr. L. W. Van Vleet, Denver, Colorado, grey mare, *Ragia*.



# Troop B, 252d QM. SQ. (Remount) On Maneuvers

*By Captain James P. Burns, Quartermaster Corps*

ON April 28, 1941, the first Remount Troop since World War I was activated at Fort Robinson, Crawford, Nebraska. The enlisted personnel consisted of young men, primarily from the states of Missouri and Nebraska, who had received no training at a Replacement Center. Officers were Reserve officers from the states of California, Kansas, South Dakota, Utah, and Virginia. After intensive training under ideal conditions, but only for three months, this troop was ordered to Louisiana to participate in the maneuvers.

On August 5, 1941, a permanent change of station from Fort Robinson, Nebraska to Fort Bliss, Texas, and a temporary change of station to the Army Maneuver Area (ARARAT, LA.), were ordered for Troop B, 252d Quartermaster Squadron (Remount). The troop was assigned to the Third Army.

The Troop movement was accomplished by troop train (four officers and 174 enlisted men, Captain James P. Burns, commanding) and truck convoy, (1 officer, 3 enlisted men and 2 trucks) without incident. The Troop went into the field without the following Table of Basic Allowance equipment: one half-ton pickup truck, one motorcycle with side car, one 1½-ton cargo truck (left at Fort Robinson for repairs) and one two-horse trailer. Throughout the period of the maneuver the Troop was equipped with one inadequate, old style, wood-burning field range. This was also used to mess the outfit while on the train. This field range has been replaced with three gas-burning ranges since our return to Fort Bliss.

The Troop arrived at ARARAT at 10:15 PM on August 7th and because of surrounding swamps, bivouacked along a road bed. Every effort had been made to contact the Third Army Headquarters but no one in authority could be located. Contact was established with Third Army Headquarters early August 8th, and the Troop moved by motor transport to a bivouac area north of REEVES, LA. The period August 8th to 13th was spent at REEVES. A picket line area and bivouac area were cleaned out and a water point was built on an adjoining creek. The motor convoy from Fort Robinson joined at REEVES on August 11th. On August 14th the Troop was ordered to a bivouac area southeast of SEALE, LA. The move was accomplished by motor transport (Motor Pool Third Army) without incident. The period August 15th to September 2nd was spent in the bivouac area at SEALE. During this period 676 animals were received and 339 animals were issued.

On August 15th a long-contemplated reorganization of the Troop was effected. A horse record section was established, and the following system of identification

was set up: each Cavalry Regiment, Field Artillery Battalion and Separate Troop was assigned a color, and a short piece of yarn of this color was tied into the halter of each animal received; this was left on when the animal was shipped. A copy of the color code was furnished the 1st Cavalry Division veterinary officer who was in charge of evacuating and receiving 1st Cavalry Division animals. A horse record card system similar to that used at a Remount Depot was also put into effect. These two systems enabled the Troop to complete the maneuver without an instance of a lost animal. Each training platoon was assigned all animals from certain front line units and kept this assignment for the duration of the maneuver.

Most of the animals received from the front line units were very thin and about 65% of the animals received had sore backs. The daily routine was devised to take cognizance of these two facts. Animals were exercised by tying two or three animals together with halter shanks and leading the near animal from astride a riding horse.

At SEALE, three attempts were made to prepare watering points. These ways were unsuccessful, due to the nature of the soil underlying the creeks. A bucket brigade was used to fill water troughs on August 15th, and on August 16th a gasoline pump and hose were borrowed from the 8th Engineer Squadron. This was used successfully for the duration of the maneuver. The small canvas water tanks supplied were found to be impractical in that too much time was consumed in watering 300 to 400 animals. A large tank, composed of a large paulin and timber, was constructed and used for the duration of the maneuver. This tank had a watering capacity of twenty-five horses.

On September 3rd the Troop was ordered to a position about one and one-half miles southwest of REEVES, a distance of 33 miles by road. Since 25 miles of this distance was fenced, paved highway, with shoulders unsuitable for animal traffic, an alternate cross-country route was laid out. By using the cross-country route it was possible to strike a dirt road and also to cut off six miles. Particular mention is made of this march because of the interesting features it involved. No aerial photo maps of the area were available and prior reconnaissance was impossible due to lack of time and lack of a light scouting vehicle. One small privately owned compass and one copy of the standard army maneuver (uncontoured) map were available. The march was accomplished in three echelons. Eight escort wagons, lightly loaded, eight men, with rations, and sixteen draft horses moved out on the afternoon of



September 2nd. Behind the escort wagons were tied fifteen horses that were judged to be physically unable to make the trip in one day. This echelon made eight miles on September 2nd, and the remainder on September 3rd. The second echelon, headquarters section and the stable platoon, moved out by truck and highway at 10:00 AM on September 3rd. The third echelon, 4 officers, 101 men and 374 horses moved out at 7:00 AM on September 3rd. This group consisted of the Veterinary Detachment and the three training platoons. A torrential rain set in soon after the Troop departed and continued until about 2:00 PM. Four unbridged streams were crossed on this march. The first was bridged by the Troop on September 2nd. The second was forded but the bottom went out so rapidly that the other two were bridged with whatever timbers were handy. These four crossings were completed without accident, but at the cost of several grey hairs in the Troop Commander's head. Men and horses reached the new bivouac area at 4:00 PM. 374 animals were taken cross-country a distance of 12 miles, and by dirt road for 15 miles, total 27 miles in a total elapsed time of nine hours including all halts. Morale was extremely high on this march.

At the bivouac at REEVES the Troop built seven earth and timber crossings so that horses could be led from water to the picket line and to the Veterinary dispensary. This was made necessary because of continual rain and mud. At this camp the Troop reached the saturation point as far as horse exercise was concerned, and a 100 horse corral and feed bunks were constructed. The material for this work was obtained without charge from a local sawmill. Forty-five of the thinnest horses were put in this corral and maintained.

At REEVES we received orders to go to the KISATCHIE NATIONAL FOREST to pick up three loose, unidentified, government horses. This was a round trip of 160 miles and the only available motor transportation was a 1½-ton cargo truck. The executive officer was charged with the transportation of these animals and devised a stock rack body for a cargo truck which carried the three animals without a hitch. These horses were later identified as belonging to the 12th Cavalry.

Weather conditions were extremely bad during the period the Troop was at REEVES. It rained every day, and the picket lines had to be drained every morning. Morale was much lower during this phase than at any other part of the maneuver. During the period September 3-10th, 85 horses were received and 8 were issued.

Late on September 11th, orders were received to move to MERRYVILLE, LA., a distance of 45 miles. This involved another cross-country move of 15 miles, 19 miles by dirt road, and 11 miles by gravel road. The move was made in three echelons and was accomplished in two marches of 23 and 22 miles respectively. The weather was extremely hot and it was necessary to evacuate 6 horses, suffering from heat exhaustion, at the end of the first day's march. The Troop bivouacked at

a stream crossing about two miles west of LONGVILLE, LA. A total of 423 animals were moved by the third echelon. Morale on this march was again very high.

The period September 15th-19th was spent in bivouac at MERRYVILLE. This period was very pleasant as we were only 400 yards from a fine supply of deep well water and only 200 yards from the 30th General Veterinary Hospital, from whom we received a number of animals. On September 14th we issued 266 animals to the 1st Cavalry Division. On September 19th, the 30th General Veterinary Hospital made a shipment of horses to the home stations of the several units and Troop B, 252nd Quartermaster Squadron (Remount) furnished 22 head for this shipment.

The value of cover and concealment was amply demonstrated at this camp. The Troop had bivouacked in a scrub oak grove and was well concealed from the air. On September 17th Red bombing planes passed directly over our area and bombed the area of another unit only one-quarter of a mile from the Troop.

On September 20th, the Troop was ordered back to its old bivouac area near SEALE, a distance of 25 miles. The move was again made in three echelons with the third echelon covering 20 miles, all cross country. Orders to make this move were not received until 11:00 AM and the horse elements moved out at 1:00 PM. Morale was again extremely high on this move and all men and animals finished in fine shape.

On September 26th, Troop B rode and led 105 horses to DE QUINCY, LA. (a distance of 8 miles), and shipped 4 carloads of horses to Fort Bliss. (Two attendants were sent with this shipment.) On September 27th the Troop and its remaining horses (66) were ordered to DE QUINCY. The period September 27th to September 29th was spent at DE QUINCY, cleaning equipment and washing clothes, in preparation for the movement back to home station. The remaining horses were gradually let down and were shipped, with one attendant, to Fort Bliss on September 30th. On September 30th the Troop loaded its heavy equipment on a box car, retaining only what was necessary for the trip home.

On October 2nd the Troop moved to a concentration area near MANY, LA. On October 3rd, Company "I," 29th Quartermaster Regiment, one radio equipped reconnaissance car, a gasoline type field range and stock rack truck, and one semi-trailer were attached to the Troop for the march to Fort Bliss. This composite organization made the journey, as a march unit, without incident and the Troop arrived at Fort Bliss at 1:00 PM on October 8th.

During the maneuver the Troop received a total of 860 animals, and issued 646 animals to the front line units, issued 19 to the 30th General Veterinary Hospital, shipped 171 to Fort Bliss and 22 to Fort Clark.

Plans are now being made to open a field remount depot.



# First Army Reconnaissance<sup>★</sup>

*By Captain Chauncey E. Howland, 102d Cavalry*

## ADMINISTRATIVE

ON 27 October, 1941, the C.O., 2d Squadron, 102d Cavalry (H-Mecz), was informed that the Squadron was to be attached to 1st Army and based in the vicinity of Albemarle, N. C. Quarters parties were sent out to reconnoiter and the necessary attachments of Regimental personnel, vehicles and equipment were made to provide supply, medical, administrative, motor maintenance and radio repair facilities. It was realized that the Squadron, a tactical element, must be self sustaining as far as possible. Personnel, vehicles and tools were provided in a very satisfactory degree by the C.O.'s of Headquarters, Service Troops and the Medical Detachment.

The Regimental Commander was ordered to report to General Drum at 1st Army Headquarters and was accompanied by the Squadron Commander. The General pointed out that the reason for the attachment was to provide an Army Reconnaissance element to operate similarly to Corps Cavalry, but over a wide area with greater distances involved. It was to move rapidly outside the sphere of Corps Cavalry, reporting directly to Army.

On November 1, 1941, the Squadron moved from the KERSHAW area to the ALBEMARLE bivouac prescribed in the following march table:

HEADQUARTERS, 2D SQUADRON  
102d Cavalry (H-Mecz)  
Vicinity of Kershaw, South Carolina

31 October 1941

## 2D SQUADRON MOVEMENT

No. 1

Maps: Esso Road Map of South Carolina and North Carolina, 1941.

1. The Second Squadron plus attachments will move to the maneuver area, vicinity of Albemarle, N. C., Saturday, 1 Nov. 1941.

2. a. *Route of March:* Route U. S. No. 521 to Lancaster, Route 200 to Monroe, Route 151 to RJ 151-27, Route 27 to eight miles east of Albemarle.

b. *Initial Point:* U. S. Route No. 521 and dirt road leading south into Bivouac Area. Head of First Serial will pass IP at 8:00 AM. Five-minute interval between serials. The first serial will clear the bivouac area at 7:30 AM and form with its head at the IP. Serials will leave the area at 10-minute intervals.

c. *Rate of March:* Average speed 25 miles per hour. Leading vehicle each march unit not over 30

miles per hour. Individuals regaining lost distance not in excess of 35 miles per hour. Distance, 100 yards between vehicles. Through Heath Springs, Lancaster, Monroe and Albemarle 15 miles per hour, 5 yards distance.

### d. Order of March:

2d Sqdn Hq.	{	Serial No. 1
Troop D less, kitchen & combat		
Troop E, less kitchen & combat	{	Serial No. 2
Troop F, less kitchen & combat		

Radio Jeep, Sqdn ½-ton, kitchen & combat vehicles of D-E-F Troops, 5 trailers (D-2d Sqdn Hq.-E-F-(2)), Radio Maint.	{	Serial No. 4
Two Sqdn gas trucks, Medical Det		

Two Squadron Motor Maint. Trucks

3. *Uniform:* Breeches, woolen, elastique; shirt, woolen; boots; cap, field; belt, pistol or cartridge with suspenders. (FIELD Jackets may be worn.) Squadron & Troop Motor Maintenance crews will wear coveralls or denims.

4. *Rations:* Sandwich lunch for Saturday, noon, will be carried.

5. *Communications:* Net opens 7:30A. 2320 KC. VOICE.

By Order of Captain Howland:

(Signed) FRANK A. TEOFANI,  
Second Lieutenant, 102d Cavalry (H-Mecz)  
S-1-4.

\* \* \*

A satisfactory base camp had been picked 3 miles north of Pee Dee Bridge, Route 27 on the east side of the river. No telephone installation was available due to the remote location, and radio contact was maintained with few interruptions to 1st Army at HOFFMAN, a distance of 60 miles. This was accomplished by using an antenna cut to ½ wave length and oriented on HOFFMAN.

Staff Sections of 1st Army were contacted and the details of all classes of supply, communication, ordnance and quartermaster repair, and medical evacuation were worked out. Alternate supply points and rail heads were provided. Provision for a reserve of 2 days' B and 2 days' C ration were made in addition to the regular daily A ration. A 5,000-gallon Gasoline Tanker and Dispenser was provided. Racks to hold five cans of gasoline on the rear of each car had been fabricated by Service Troop from salvaged steel cots before leaving. The balance for all cars was rushed through and installed at ALBEMARLE. This, plus two 6 x 6 Squadron trucks with 120 spare cans each, contributed greatly to the long range

★Report of Detached Service of 2d Squadron, 102d Cavalry (H-Mecz), Fort Jackson, S. C.

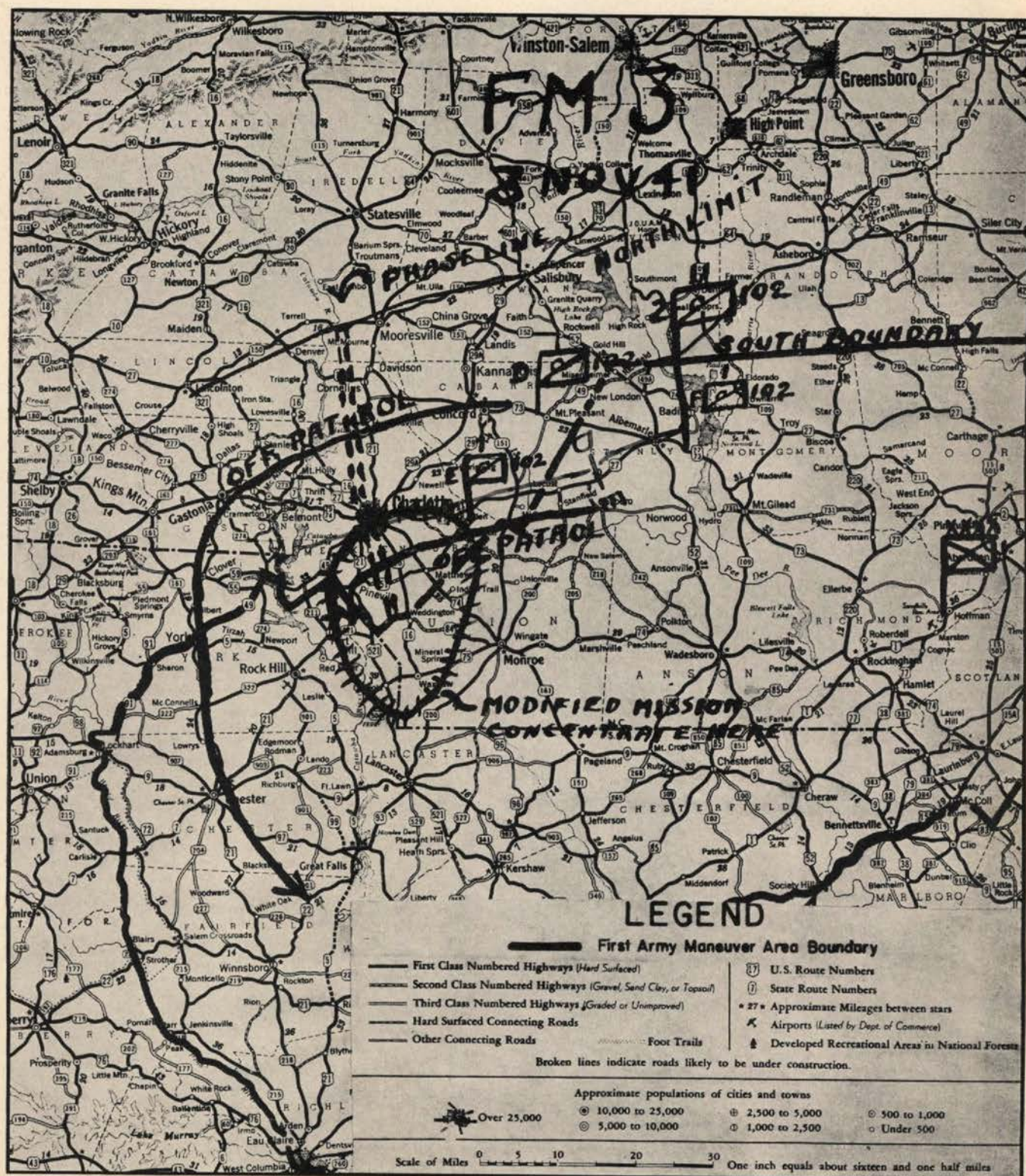


operating ability of the cars which was so necessary considering the distances to be covered: (A number of cars traveled over 700 miles in a single maneuver). They were especially helpful reservoirs to long range patrols in enemy territory whose source of gasoline was the ambush of enemy supply.

The Squadron operated through Army Reconnaissance (Prov) commanded by Brig. Gen. Lindsey McD. Silvester and later by Brig. Gen. Henry Terrill, Jr. It

was designated Army Reconnaissance Det "N"—and in the three maneuvers covered the north or west flank of the Army. An Army Reconnaissance Det "S" composed of portions of the 1st Tank Group covered the south or east flanks.

The procurement of motor vehicle parts and the Troop and Squadron Maintenance insured that all cars remained in good running condition. No cars were towed back to base camp.



Map 1



The health of the Command was excellent although the temperature at base camp was below freezing nearly every night. The only medical evacuations were those occasioned by an overturned scout car.

The arrangements made with Army to provide alternate emergency supply points proved to be very helpful, providing freedom of action.

The Army provided thirteen 245 radios and one 193 radio car making a total of 27 sets in the Squadron; one set per section, although our own 203 sets were inadequate. The communications set-up is the limiting factor in all successful reconnaissance. The efficiency of the Squadron was enhanced greatly by the amplified radio set-up.

The use of extended  $\frac{1}{2}$  wave length antennas increased the range of all the radio sets in some cases to three times the normal range.

Base camp luggage of the entire Squadron was transported satisfactorily both ways by 4 horse tractors provided by Service Troop.

The return trip to Fort Jackson proceeded according to schedule 1 Dec. 1941, no vehicles being towed.

### TACTICAL

Missions, changes, modification, dispositions and hours are drawn from memory as the Squadron was operating constantly in enemy territory throughout all phases, requiring that orders be burned, SOI's and authenticators memorized before jumping off. Operations maps were sparingly marked and overlays burned as soon as information was transferred.

### FM 3

Mission: To cover with reconnaissance the north flank of the Army, discover, report, and delay armored elements. Ordered not to cross initial line (Route 52) before 4:00A. I decided to place Troop E on the left and Troop D on the right to move forward rapidly to Route 21 with particular attention to Routes 21, 29 and 29a, and 27. I ordered an officer's patrol from Troop E to move rapidly south of CHARLOTTE to the vicinity of FORT MILL and from Troop D to move in a wide swing west and south through YORK behind red main body (this patrol eventually reached COLUMBIA). The Squadron axis was Route 27.

Troops D and E moved out from base camp at 3:00A. The Squadron with Troop F in reserve followed at 4:00A. The Squadron advance guard, composed of a platoon of Troop F had a serious accident on a precipitous road a short distance out. A scout car overturned causing the immediate death of the driver and pinning all of the occupants under the car, blocking the road. At this time a message from Army ordered the Squadron to jump off at 5:00A. Messengers were sent out, the car lifted, occupants evacuated and the balance of the Squadron moved in 25 minutes due to the excellent state of training of the troop, medical and communications personnel. The attack was launched on time.

The Squadron was immediately successful in getting back valuable enemy information reaching its first phase line and patrolling while officers' patrols moved by stealth through enemy territory. A combined reconnaissance and counterreconnaissance screen was operated. Through the medium of radio and messenger they furnished information of enemy elements, armored supply depots, rail heads, ponton bridges and when the Armored Division moved into the area the composition, identification of units and direction of movement was reported. Numerous prisoners were taken, causing a disposal problem but gaining valuable identifications, SOI's and marked maps.

A modification of mission was received from Army at 1:00A of the morning preceding the cessation of hostilities. Troop commanders were ordered to a rendezvous at LOCUST and arrived at 2:30A simultaneously with the Squadron Commander. Troops were swung into a new position with a concentrated reconnaissance ordered in the area CHARLOTTE, PINEVILLE, FORT MILL, VAN WYCK, WAXHAW, INDIAN TRAIL, MIDLAND.

When the maneuvers ended, Army was being informed of the presence of 171 Tanks with company designations; 69th Armored Regiment, companies (D E F H I) crossing Ponton Bridge near VAN WYCK.

The work of the patrols, cut off for 5 days, obtaining gasoline by capture, and subsisting on C rations was superior.

Communication over the extreme distances (130 miles from Army) was difficult until the expedient of extended antennas was used. It then became satisfactory and was the lesson needed to provide wire for improvised  $\frac{1}{2}$  wave length antennas for troops during next phases. SCR 245 and SCR 193 radios were used.

The Squadron averaged 80 messages per day to Army by radio, and telephone, the radio being the most consistent.

At the conclusion of the maneuver Troops were ordered to assemble and proceed to base camp by unit, thus reducing the traffic congestion. All elements except the distant D Troop Officer's Patrol were returned within 12 hours with all vehicles intact.

### GHQ PHASE NO. 1

The realization of communications difficulties was anticipated prior to this phase. Thirteen SCR 245 radios were provided by Army and installed in our scout cars. Two thousand feet of wire was obtained and operators were instructed how to figure a half wave length for the frequency to be used. Arrangements were made to obtain homing pigeons from private lofts at LEXINGTON, N. C., and a relay station was established there with Army birds to Army HQ. One company less a platoon of the 38th Engineers was attached with additional supplies of explosives and land mines.

Mission: Initially to cover all bridges of South Branch YADKIN RIVER from Route 29 northwest to





Map 2

Route 21, thence north to INDEPENDENCE, VA. At jump off move rapidly west mining all bridges until contact was obtained, then delay by mines and fire.

This initial front was 100 miles long. Bridges to Route 21 were to be taken over by a company of the 61st Engineers and blown immediately, leaving no means of exit. Squadron to cover by fire until their arrival. I contacted the Engineer Commander and ascertained that they could arrive about 8:30A.

Attached engineers were divided between troops keeping Company Headquarters and one squad as reserve. This provided a kitchen for the Squadron and

just sufficient personnel for the troops to drop off at mined bridges in the area. Troops were given areas of advance, E on the south, with an Officer's Patrol south of CHARLOTTE, F in center and D on north. A first phase line was designated, CHARLOTTE, Route 16, HICKORY, Route 321, BLOWING ROCK. The night of 13-14 Nov. the Squadron moved to the vicinity of COOLEEMEE, N. C.

Sixty-three pigeons were obtained and distributed to troops to be divided down to sections and patrols. Instruction in their care and use was given. Final supplies were issued, instructions on strength reports and ration



returns given and the last G-2 information available. At dark, 14 Nov., troops moved into positions with orders to push forward at 7:30A, Nov. 15, leaving a section with engineers at each bridge. These sections on being relieved by Combat Engineers were to cross the river, converge at Route 801 to establish bridgehead for Squadron Headquarters if necessary and then rejoin their troops, except for platoon of Troop D kept in reserve.

Troops moved out on time. Engineers did not arrive as scheduled and Squadron Headquarters at 8:30A crossed the river without resistance moving to WOOD-LEAF. During the day engineers arrived releasing the sections left behind and blowing the bridges. Troops moved rapidly into positions and established a screen covering area of 4,500 square miles. Troop D on the north flank was 135 miles from Squadron C.P. and established successful uninterrupted radio communication with 245 sets at both ends.

As the maneuver progressed movements of the 1st Armored Division and all reconnaissance elements were obtained and sent to Army. The 1st Armored Division moved in through the maneuver area and cut along behind the reconnaissance elements of the VI Corps. This was reported to Army and I started to draw sections from Troops D and F to keep contact with this force. They moved into the area GOLD HILL, MEISEN HEIMER and were surrounded by tank attackers. Their means of exit was mined on the north by a section of the Squadron. At this time a patrol from the reserve captured six 6 x 6 trucks containing 3,600 gallons of Diesel oil and gasoline for the Armored Division. The gasoline was dumped into the Squadron Tanker and the personnel and trucks turned over to friendly troops of the VI Corps.

As the maneuver progressed and it became apparent that no wide encircling move was imminent, the two troops on the north, D and F were depleted of platoons to be used directly by Squadron toward the south in order to properly protect by reconnaissance the north flank of the Army. Patrols were sent into the maneuver area and reported strength, disposition and direction of movement of numerous units, sending back captured officers and releasing unimportant prisoners.

No action developed to an extent north of the maneuver area. The enemy counterreconnaissance screen was ineffective and 90% of the information requested directly by Army was obtained as well as the normal flow of information. Enemy radio intelligence was active and necessitated changes of frequency and call letters under adverse circumstances, a lesson which provided the advance planning of a coded change for frequencies and call signs in the following maneuver.

At the conclusion of the maneuver the Squadron was covering a line in the form of an "L" over 150 miles long with majority of bridges and main roads in the "L" mined and guarded. The 1st Armored Division was unable to extricate itself. Eighteen hours were required

to assemble the Squadron at base camp. There was no disabling vehicle damage and only minor casualties.

### GHQ PHASE NO. 2

Prior to the beginning of this phase General Terrill assumed command of Army Reconnaissance (Prov). On 24 Nov. 1st Army moved to TROY and closed at HOFFMAN at 3:00P. Orders were issued at TROY for the new mission. The maneuver was laid out in a north-south direction. The INTERNATIONAL BOUNDARY extended from ROCKINGHAM west on Route 74 to CHARLOTTE, thence north along Route 21 to MOORESVILLE.

Mission: To cover the right flank of 1st Army in an area east of the CATAWBA RIVER to flank of VI Corps-MOORESVILLE, CHARLOTTE, Route 21 to crossing of CATAWBA, ROCKHILL—not to cross INTERNATIONAL BOUNDARY before 5:00A (25 Nov).

Troops were disposed with D on north facing the river to the west and E on south facing south. Troop boundary between troops Route 74 west of CHARLOTTE. D Troop to send patrol to GASTONIA, YORK, CHESTER. Troop E to send patrol to VAN WYCK, WAXHAW area, F Troop in reserve with Squadron at NEWELL. Each troop had engineers attached.

At 5:00A (25 Nov.) the troops crossed the line and immediately ran into a strong counterreconnaissance screen composed of entire 6th Cavalry with the Mechanized Squadron of the 107th Cavalry on the north portion and 6th on the south. Troop D (107th), sent out sufficient force to seriously engage the Squadron C.P. and it was moved at 9:00A to a point south of CONCORD. Operation outside the maneuver area on this and preceding maneuvers made the problem of concealment difficult as all roads were considered defiles and the Squadron Headquarters with attached engineers, supply and maintenance sections was unwieldy.

Troop D proceeded west to the river and ran into determined resistance at all bridges. They blew the northernmost bridges and got the patrols across the others.

Troop E was in constant trouble with superior reconnaissance elements but managed to get out patrols and effectively cover the assigned zone. The flow of information was immediate. Disposition of armored and motorized elements and cavalry reconnaissance elements and ponton bridge was constant throughout the entire maneuver. Contact with Army was excellent.

During the maneuver Army ordered a change of reconnaissance zone in a more southerly direction. Troop F relieved Troop E and penetration into hostile territory was increased. Troop D sent 2 platoons across the river, by fording, then south to CHESTER. Elements of Troop F were preceding the VI Corps in its last drive to the CATAWBA when the maneuver ended.

During the previous night Troop D had captured the C.O. of the (107th Cavalry) Squadron of the 6th Cav-





Map 3

ally and reported constantly the whereabouts of the C.P. 6th Cavalry.

At the end of the problem 28 Nov., Troops D and F were completely engaged without reserves, Troop E was in Squadron reserve.

Losses in this maneuver were severe. On successive days each troop in action lost as high as 40% of its cars due to the heavy screen and all out missions given.

Communications were excellent, all vehicles were in running order. Numerous prisoners were taken. The Squadron C.P. cleared over 500 messages.

#### COMMENTS ON DETACHED PLATOONS

One platoon each from Troops D, E, and F were detached late in Sept., 1941, to form the nucleus of the reconnaissance elements of 1st Army Tank Attackers





1—Type of terrain, field of fire. 2—Fording Catawba River. 3—Another view of fording the Catawba. 4—Coming ashore.

and Antiair Borne Troops. These platoons moved out on the secret mission taking all of the organic equipment of a platoon plus certain troop equipment with them. Infrequent reports indicated the satisfactory manner in which each was working. Comments of superior officers and observers were highly gratifying.

The loss of these platoons reduced the capabilities of the Troops by 25% and made each troop the approximate counterpart of a Division Reconnaissance Troop.

#### NOTES AND RECOMMENDATIONS

Especially when the Squadron is to operate as a sepa-

rate unit and often as a part of the regiment the following notes and recommendations are considered to be of interest:

**Radio:** Powerful sets such as the SCR 193 are desirable. Failing this, each car should be equipped with sufficient wire (at least 250 feet) stranded No. 14 with ceramic insulators and rope to extend its normal range of operation through erection of a fairly efficient antenna.

**Pigeons:** When possible pigeons should be used. When a unit is cut off this is an excellent means of communication. Birds good for 100 miles of travel are trained easily. With proper care they can be kept several days. (They are very susceptible to carbon monoxide.)

**Liaison:** Better liaison planning for a reconnaissance element is necessary. The larger unit must provide an officer equipped with all possible information concerning his commander's plan and with call letters, frequencies, etc.

**Food:** A kitchen is almost an absolute necessity for an augmented Squadron Headquarters. Troops need more ½-ton 4 x 4's to take food to platoons. On distant patrols requiring several days platoons might be equipped with a ½-ton truck and one section of kitchen unit. Kitchens should not be called back to get rations. They must stay hidden with Troop Headquarters. Half-tons can be used.

**Gasoline:** Two 2,500 gallon tankers would be better than one of 5,000 gallons. The gas can racks are an absolute necessity. Before going into combat in war they could be dismantled easily.

**Medical:** The present method is inadequate for a Squadron on the type of work done in these maneuvers. Distances are too great and operation in enemy territory would lose ambulances. They are one more piece of equipment to conceal. Personnel should be given an intensive course in first aid and the Air Corps type first aid kit should be a part of the equipment of each car. A person wounded or injured can be cared for by his mates and left by the road or evacuated when the car can come in. Working adjacent to a Corps the personnel could be evacuated directly by the nearest friendly troops equipped with an ambulance or other transportation.

The state of health of the command was excellent. There were no medical evacuations and few treatments for illness.

**Clothing:** Warm, Armored Force type clothing for winter is desirable. The present cavalry issue is insufficient.

**Equipment:** Each scout car or half track should be equipped with a winch. It is a time saver and often the only means of getting vehicles across a ford. The 6 x 6 can out-perform the scout car in rough going. A scout car on a 6 x 6 chassis may be feasible. The half tracks observed leave much to be desired as reconnaissance vehicles.



# NONCOM QUIZ

In view of the fact that the Noncommissioned Officers' Course at The Cavalry School has been temporarily discontinued, the contributor to the "Noncom Quiz," for this issue of The CAVALRY JOURNAL, feeling that the regular readers of the column may be interested in comparing their individual ability as "solvers" with that of their more fortunate contemporaries who were members of the last NCO Class to graduate, has substituted in full the written quiz given to this class on November 22, 1941, which pertained to some of the theoretical instruction on defense.

An analysis of the results of grading the papers of the 95 students to whom this quiz was recently given reveals:

16 Solutions were graded at 90% or better as follows:

- 1 Solution graded 100%
- 2 Solutions graded 99%
- 3 Solutions graded 96%
- 1 Solution graded 95%
- 3 Solutions graded 94%
- 1 Solution graded 93%
- 1 Solution graded 92%
- 4 Solutions graded 90%

15 Solutions were graded between 75% and 80%.

15 Solutions were graded as Unsatisfactory, or less than 75%.

The lowest grade awarded was 60%.

- 15 men failed to answer question No. 3 correctly
- 6 men failed to answer question No. 4 correctly
- 11 men failed to answer question No. 5 correctly
- 15 men failed to answer question No. 6 correctly
- 45 men failed to answer question No. 7 correctly
- 21 men failed to answer question No. 8 correctly
- 8 men failed to answer question No. 9 correctly
- 16 men received no cut on question No. 1
- 22 men received no cut on question No. 2

Only 2 men received no cut on question No. 10, which was weighted at 16 of the possible 100 points to be made on the quiz, and only 31 were cut less than 5 points, (i.e., made 75% on this particular question).

The preceding analysis may be of interest as a basis for comparison should you decide to determine your own "I.Q." for the test. More than half the class completed their solutions during the first half hour of the one hour and fifty minutes allowed. Nine students of the 95 used the entire period.

## SECTION I QUESTIONS

1. In the course of a conversation with several new selectees in your own organization, after your return from The Cavalry School, the question was raised as to what the *general object* of "defensive combat" is. You have answered that: "*Briefly, the general object of defensive combat is either to gain time or to economize forces.*" Your answer brought forth the following additional questions:

- a. What is the purpose of gaining time?
- b. How can you economize forces by resorting to defensive combat?

How would you *briefly* answer each of these questions? (Use space below for answers.)

a.

b.

Value—10.

2. You have been taught that Cavalry in defensive combat, *when required to defend in position*, operates and fights *the same as Infantry (within the scope of its powers and limitations)*.

Answer the following questions that pertain to some of the "powers and limitations" noted in parenthesis in foregoing statement.

a. Based on combat power will corresponding *Cavalry units* (i.e., such as battalions and squadrons; companies and troops, and platoons) usually be organized on a *broader or narrower front* than Infantry units?

ANSWER (One word is sufficient):

b. What piece of essential individual equipment does the Infantry soldier have (and the Cavalry soldier does not have), that is immediately available, for providing himself protection in organizing a defensive position?

ANSWER:

c. What useful defensive weapon is found in the Infantry rifle platoon that does not exist in the Cavalry rifle platoon?

ANSWER:

d. How many light machine guns are usually available to the Cavalry rifle platoon in organizing a front line platoon defense area?

ANSWER:

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e. Where do these light machine guns come from?

ANSWER:

f. Are they usually "attached" to your platoon or "supporting" it?

ANSWER:

g. If they are "attached," do they operate *directly* under your command as platoon leader; under the LMG platoon leader or the troop commander?

ANSWER (State one only):

h. How many and what caliber mortars are there in the Cavalry Regiment (Horse), and in what unit are they found?

ANSWER:

i. Under the new (tentative) organization of the Troop in which these mortars are located, are they transported in pack or by motor?

ANSWER:

j. Is the 81-mm. squad armed with any special purpose weapon for AA defense?

ANSWER (Yes or No): .....

k. If you answered "j" in the affirmative, what type weapon is provided and will it add to the "combat strength" of your front line (rifle) platoon defense area if this mortar squad is "attached" to your platoon after emplacement of the mortar?

ANSWER:

l. Where does the Cavalry rifle troop secure tools for clearing fields of fire and digging fox holes?

ANSWER:

m. What "close-in" individual defense weapon does every soldier in a Cavalry rifle platoon have that some soldiers in an Infantry rifle platoon do not have.

ANSWER:

n. What individual weapon do some of the soldiers in the Infantry rifle platoon have, which is useful for "close-in" personal defense, and which none of the soldiers in the Cavalry rifle platoon are equipped with?

ANSWER:

Value-14.

3. The following statement appears in FM 101-5:  
"No matter what type of terrain and no matter what the tactical situation, terrain can always be evaluated in terms of the following five factors:

Observation.

Fields of fire.

Concealment and cover.

Obstacles.

Communications."

You are in command of a dismounted rifle platoon, and are now engaged in making a *detailed reconnaissance* of an assigned defense area just prior to forming your final plan for occupying it with your platoon. Which of the above five factors do you consider first as being the most essential?

ANSWER:

Value-10.

4. You have just completed explaining to some selectee replacements, recently assigned to your platoon, the difference between the terms *cover* and *concealment*. If your explanation has been correct and understood by them, *how should they answer the following questions:*

NOTE: Write "Yes" or "No" in the space provided after each question.

a. Does "concealment" always include protection from fire? .....

b. Is it possible for individuals in a squad to have "concealment" without having "cover"? .....

c. Can led horses have cover and yet be exposed to observation from the air? .....

d. Is it possible to place either animals or men in position which have both "cover" from ground fire and "concealment" from both ground and air observation? .....

Value-12.

5. An *ideal field of fire* for Infantry, or Cavalry, has been defined as an open stretch of ground in which the enemy can be seen and in which he has no protection from fire as far as the limits of effective range of the Infantry and Cavalry weapons. Such *fields of fire, though sought for by both attacking and defending troops, are seldom found.*

Which does the presence or absence of good fields of fire have the greater influence on, the successful conduct of *defensive* or *offensive* operations?

NOTE: Answer by stating *either one* or the *other*, i.e., "defensive" or "offensive."

ANSWER:

Value-5.

6. a. Is the following statement correct? (Answer Yes or No.)

"As a general rule long gentle slopes afford better conditions for *defense* than do abrupt elevations."

ANSWER: .....



b. What type of action are positions along commanding heights especially suited for?

ANSWER: .....

Value—6.

7. a. What is the maximum "front" that a troop operating as part of a Squadron is normally assigned to occupy in defending in position?

ANSWER: ..... Yards.

b. What is the maximum "front" it will normally be required to defend in *delaying action* when deployed with "extended frontage"?

ANSWER: ..... Yards.

c. How will a troop deployed as in "a." adjust itself to deploy as in "b." so far as the maximum area physically occupied by its platoons is concerned? Will the adjustment be made by:

(1) Uniformly increasing the area physically occupied by each platoon, or

(2) by increasing the distances between platoon positions and covering these intervals by fire.

ANSWER by underlining whichever method, i.e., (1) or (2), you consider best.

d. What is the maximum depth of a troop defense area?

ANSWER: ..... Yards.

Value—12.

8. A commander of a front line platoon defense area should give first thought to locating his *rifle squads* (or half squads), so they can:

(1) Protect machine guns, antitank guns or mortars located within or near the platoon defense area.

(2) Fire at long range targets as soon as they appear.

(3) Place protective bands of fire in front of the platoons on the right and left.

(4) Cover with fire all avenues of approach to the position.

ANSWER: ..... (Insert the two numbers which apply.)

Value—10.

9. A rifle squad, in a platoon defense area is assigned and organizes a supplementary position to which it will move:

(a) when the primary position is rendered untenable by armed hostile fire, or

(b) when it becomes necessary in order to defend the platoon position against attack from the rear or flank.

ANSWER by underlining whichever reason, i.e., (a) or (b), you consider to be correct.

Value—5.

10. Considering only the six locations indicated by arrows on the terrain profile below, identify by placing numbers above any or all of the arrows, thus, (3), which of the locations you would use for the following:

a. In a defense over a long period of time.

(1) MLR.

(2) Led horses.

(3) Forward HMG's.

(4) 81-mm. mortars.

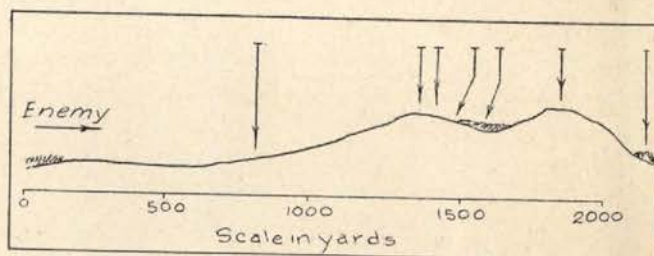
b. In a delaying position.

(5) MLR.

(6) Led horses.

(7) HMG's.

(8) 81-mm. mortars.



Value—16.

## NONCOM QUIZ

### SECTION II

#### SOLUTION AND COMMENT SHEET

1. a. Any answer which contains the thought that by "gaining time" more favorable conditions may arise for undertaking the offensive later, is a satisfactory answer.

b. By resorting to the defensive in one locality you may be able to concentrate superior forces for a decision elsewhere. (See Par. 597, FM 100-5.)

2. a. *Broader*. Due to organization and characteristics, cavalry units usually occupy comparatively broader fronts with less depth than do corresponding Infantry units. (See Par. 73 c, FM 2-15.)

b. *The intrenching tool*. It is an essential article of equipment of the Infantry soldier. It is important in attack as well as in defense in order to hold ground without excessive casualties during interruptions of the advance.

c. *The automatic rifle*. Two of these guns, on bipod mounts, exist organically in each Infantry rifle platoon.

d. *Two light machine guns* are usually available to



the Cavalry rifle platoon in organizing a front line platoon defense area.

e. The light machine guns come from the light-machine-gun platoon of the rifle troop to which the platoon belongs.

f. They are usually attached. In some cases they may be initially emplaced by the LMG platoon leader or the troop commander and subsequently "attached."

g. When the LMG's are "attached" to your rifle platoon they operate directly under your command.

h. There are four 81-mm. mortars in the mortar platoon of the Special Weapons Troop.

i. By motor. In the new tentative organization of the Special Weapons Troop, the mortar and the squad are transported in three ¼-ton trucks.

j. Yes.

k. One truck of each squad of the Mortar Platoon is armed with a MG, cal. .50 AA on pedestal mount. Unless the ¼-ton truck on which this AA machine gun is mounted is camouflaged and parked in the platoon defense area (which is unlikely to be the case) it will not add to the combat strength of your platoon defense area. It does provide protection to the mortar squad against low-flying aircraft attack while the squad is mounted.

l. Tools for use of the rifle troop in clearing fields of fire and digging fox holes are furnished by the Engineers when they are available. An Engineer Squadron is an organic unit of the Cavalry Division. Elements of this Engineer Squadron may or may not be "attached" to a Cavalry Regiment depending on the situation. They may simply drop tools at a designated location.

(NOTE: Any answer indicating that the tools are furnished by the Engineer Squadron of the Cavalry Division or unit to which the troop is attached is a satisfactory answer.)

m. The automatic pistol, cal. .45.

n. In the Infantry rifle platoon every soldier not armed with a pistol is equipped with a bayonet. If a hand grenade is indicated as an answer to this question it will be considered satisfactory. Actually each Infantry Company carries 102 grenades (approximately one per two men), in the weapons carriers of the company (they are not available to the soldier until issued).

3. Fields of fire are essential to the defense. (Par. 2 c, App. 2, FM 101-5.) Observation, cover, concealment and obstacles, no matter how excellent, in this

situation, will be of little help to you in conducting the defense unless you have good fields of fire at mid and close range.

4. a. No. Concealment from view, both from the air and from the ground, may afford "cover" only while the enemy does not know that the natural or artificial obstacle is occupied. (See Par. 2 c, App. II, FM 101-5.)

b. Yes.

c. Yes.

d. Yes.

5. Defensive. The presence or absence of good fields of fire (for Infantry weapons), generally has a greater influence on the successful conduct of defensive operations than it does on offensive operations.

6. a. Yes. (Par. 605, FM 100-5.)

b. Positions along commanding heights are especially suited for delaying action.

7. a. 600 Yards. In the defensive organization of a battle position the Cavalry rifle troop is assigned an area which may vary between 300 and 600 yards in width. (See Par 75 c (4), FM 2-15.)

b. The maximum front that a Cavalry rifle troop will normally defend on is 1,500 yards. A frontage of such great width might be assigned to a troop employed on a mission of delaying action as part of a larger force. (See Par. 373 d, FM 2-15.)

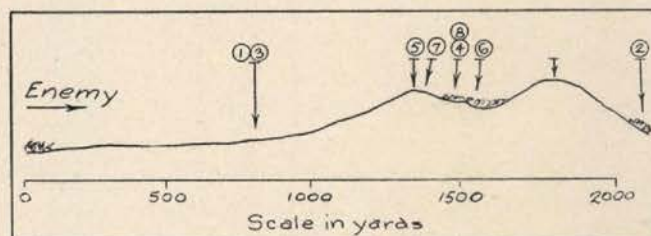
c. Normally the increased frontage will be covered by increasing the distance of the intervals between platoon positions, and not by increasing the maximum area normally occupied by each platoon, which is 150 yards. (See Stencil T-201.)

d. 400 Yards. (See Par. 75 c (4), FM 2-15.)

8. (1) and (4).

9. (b). Movement to a supplementary position is for the purpose of undertaking new fire missions that cannot be executed from the primary position. Movement to an alternate position is to prevent casualties and still continue with the same fire missions.

10.



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# The 11th Goes Home

## --A Diary of Events!

**I**F ever an enemy nation wants to catch a cavalry unit with its pretty woolen breeches wrinkled right down around their ankles, the thing for them to do is start shooting the day before the unit is scheduled to change its base.

We were ordered to move from Camp Seeley to our new home, Camp Lockett, on December 9th.

December 7th (remember the date?) found our camp half dismantled. Practically whatever could be moved to Camp Lockett by truck had been sent up the hill already.

It was a sunny, cheerful Sunday after a week of bad weather, and the usual number of officers and enlisted men were on 1-day passes to El Centro and San Diego, relaxing and having fun after the busy week of packing.

The gentle, peace-loving Mr. Kurusu was still benignly pushing his gilded olive branch into chary Washington hands, and *Life* magazine was graphically illustrating why it was a physical, scientific, economic and religious impossibility for Japan to so much as point a B.B. gun in the direction of Uncle Sam. It was a day in which to yawn, to do light tasks between naps, to lie in the sun, to sleep. Certainly, it was not the day in which to get news of war.

At 12:37 (the sun was lazily painting bright Mexican colors on Signal Mountain with a big, sloppy brush) the 11th Naval District advised us by radio of the ruckus at Pearl Harbor.

Eeeeeeeeeooooooooow, went the fire sirens at El Centro, signalling all our men to report back to camp. The local radio stations gave the same orders. So did the highway patrols. In less time than it takes to say "Japs over Honolulu," the camp was functioning on a war-time basis. Scout cars were whipped into formation, machine guns mounted, men were in uniform, armed and ready for duty. Hurrying up and down troop streets, past officers' and enlisted men's quarters, we picked up fragments from the radio news commentators who (either because they themselves had received misinformation, or because they had received none and resorted to creating their news) variously reported that (1) Hawaii and the Philippines were totally destroyed and that the victorious Nipponese fleet and air armada were pointing their bloody prows toward the Golden Gate, that (2) only one Japanese gentleman had run amok in Hawaii and that the whole exaggerated affair had already been covered with a tailor made, "Oh, so sorrow, excusing at us, please?" that (3) hundreds of Japanese and Axis bombers, long rumored to be in Mexico, had received the word to soar from Sonora to

San Francisco, dropping their Blitzkriegettes as they flew, and that (4) various Pacific coast cities had already received their share of gas bombing.

As if to stimulate us into acclimating ourselves from a peacetime to a wartime frame of mind, our C.O. (Lieutenant Colonel Frederick Herr at the time, since Colonel H. M. Rayner was convalescing in a Santa Barbara hospital) was phoned at 1:00 PM by the Fourth Army who ordered that a certain defense plan, one of many previously created for such an emergency, be put into effect. Let's call it Defense Plan No. 0, since its name can't be mentioned here.

In accordance with Defense Plan No. 0, three scout cars bristling with machine guns were dispatched to Camp Lockett, Lieutenant F. I. Putnam in command. We'd seen these scout cars leave camp before, but this was a new sight. It wasn't new just because we weren't accustomed to seeing the cartridge belts grimly in place, and full of shiny bullets all seemingly eager to be dispatched on their destructive armor-piercing missions. It was a new sight more because, as the roll was called, the men mounted the cars, and the cars went into gear and sped out, we realized, swiftly and with surprise, that we could no longer regard these men as draftees, as civilian dudes in the army ranch, but that these were soldiers, trained, and ready to kill or be killed in the line of their duty.

The rest of that Sunday passed swiftly. Hourly reports of enlisted men and officer strength were made by troops to the Adjutant. Maps containing areas that we were defending according to Defense Plan No. 0, were rushed back from Camp Lockett. Other maps were quickly made on improvised drafting tables and rushed to other army headquarters, as asked for.

Near chow time officials of the local railroad phoned and asked that we send protection for certain strategically located tunnels, bridges, gorges. Squads were sent to each point. The radio had whipped everyone into a fine frenzy of sabotage-suspicions. The guards at the Mexican border, 12 miles away had been doubled, and redoubled.

One does not give away secrets when one says that this area is generously pock-marked by dams, canals, power stations. That's why Defense Plan 0 had been created in the good old lazy days of peace. That's why we kept arming and sending out squad after squad to these vital spots. That's why midnight found almost every important dam, highway bridge, railroad bridge in the area playing silent host to our patrols. The day had been slow in getting under way, but its third act curtain certainly came down with a bang!



Would we go to Lockett or, now that we were in the war, stay at Seeley? That's the question we asked one another Monday morning. Although the radio news commentators had localized the fighting to the Islands, there was still persistent reports of Japanese plane carriers right off the coast, Japanese bombers overhead. A phone call from higher headquarters settled the question. We were told to continue with our plans.

That was our last day in Seeley, a place we had carved from the desert ourselves. We had come to it last November, found nothing but a vast plain of adobe mud made pasty by the rain. We had built mess halls, erected tent frames, carved a rifle range out of an old river bed, converted a pond into a horse swimming place, installed a filtering system, a swimming pool. We had endured a winter of rain and a summer of intense heat. We had done a lot of living in the year we'd spent at Camp Seeley.

Appropriately enough, it rained that last Monday. Canvas came off the tent frames, was folded and sent on its way. Barracks bags, beds, mattresses assumed mountainous piles in troop streets. Tents were stripped of everything except what was needed for one more night.

The war did not touch us that day. Some squads on patrol duty were relieved. Others were sent hot meals. The big business on hand was the move to Camp Lockett.

Late in the afternoon (the sun had come out again for a few moments) we received a good sized report from a higher headquarters. The news at the moment was that a certain coastal section of Mexico not too far from us was believed to be the center of Japanese activity. There were some unauthenticated but nonetheless vivid reports of small boats landing in that vicinity.

There was a slight rain that night. Just a little misty drizzle as if the elements were playing cat-and-mouse, saying, "This is just a taste of what I can do, but wait until I give you a really hard poke."

Tuesday was moving day. We kept putting our raincoats on and taking them off as the rain took a poke at us and ducked, poked and ducked. At 7:15 AM we were phoned by the 11th Cavalry's 2d Squadron (they had all moved into Camp Lockett several weeks ago) whose C.O., Lieutenant Colonel A. W. Howard, uneasily advised us that a large flight of unidentified planes were flying over their camp.

At 10:45 AM we were all in the saddle, waiting to hear Colonel Herr's order "Forward—Ho!" Colonel Herr was passing the last telephone in the camp—at the guard house. It rang. It was the Signal Officer at Fort Rosecrans telling us the latest about the enemy carriers right off the coast, and about the enemy planes that had circled over San Pedro and Long Beach last night.

With many a repeated anxious look skyward, the command group clattered past the Camp Seeley gate at

11:05 AM. It did not rain that day. Those of us that wore raincoats took them off and secured them to our saddle bags as we rode. Those of us that wore field jackets did ditto. And those of us that still wore the heavy woolen undershirts we had slept in, scratched, and wished we hadn't. It was a hot ride.

The march that Tuesday was all on the highway through desert. Two thirty PM was the time we were scheduled to arrive in Skull Gorge.\* We hit it on the split second.

We had bivouacked here several times before. Picket lines went up quickly. Horses were watered. Food was served.

Night, with an occasional grumbling accompaniment of thunder, reported for duty quickly. It was dark by 5:30. By 7:00 most of the men were under their pup tents, or in their sleeping blankets.

It was not a good night for sleep. A near-by freight train switch-off, dormant since time immemorial, sprang into noisy action, banging and crashing its cars couplings. Occasionally a plane or number of planes, droned overhead, unseen but throbbing with the possibilities of menace. It rained. Not the gentle misty drizzle of the night before, but a good solid, salt-and-pepper stinging rain that woke us up, marooned our tents and sleeping bags and made things miserable, in a steady, industrious style.

Reveille was at 5:00 that Wednesday (December 10th, if you've lost count). We laced boots in the dark and rain. In the dark and rain we ate, saddled up and moved on toward Moose Mesa.\*

The mist lay its ghostly shroud on the desert. Little scrub mesquite bushes looked like puffy snowballs that morning. And the snaky Ocatillo cacti bobbed into view and disappeared behind curtains of mist like gibbering witches in macabre pirouettes. There was no wind. One could see no farther than the back of the horse in front of him. From behind and in front echoed the steady rhythmic clickity click of the horses' hoofs as we took to the highway.

By 9:00 AM the mist had lifted, the sun was slugging his way through the clouds, and we were watering our horses at Sulphur Geyser.\* A motorcycle messenger brought the C.O. a message from Camp Lockett's C.O., "Higher Headquarters reasonably sure there are 11 enemy aircraft carriers right off the coast here."

Later confirmation reduced the number to two enemy carriers. But, two or eleven, it made our position (mounted men on the open road) an easy target for the bombers from the land of the rising sun. We forsook the highway for less travelled paths for the rest of the trip, lengthening the distance appreciably.

At 10:40 AM we reached Moose Mesa. Last July the trip from Skull Gorge to Moose Mesa was considered a tough one, and we had rested at Moose Mesa, spent the night there. This time we paused only to feed our horses, and eat our lunches.

A little before 12:00 another motorcycle messenger

\*Fictitious.



brought us another little tid-bit of information, "Japanese 'farmers' around Tia Juana are congregating at location as yet unrevealed."

Our raincoats were on again by the time we watered at Star Valley.\* Lost Valley,\* our scheduled bivouac area, was reached by 1:30 PM, after a ride over a snake-like road that included desert, gorge, valley, narrow bridges, jumps, streams, and narrow passes in its varied itinerary.

Rain. And more rain. We fed our horses, rubbed them well, and (for the first time in a year) attached their covers. Then, in punishing rain, stood in the chow line to take care of the inner man.

We had finished preparations for the night's bivouac when the rain, evidently deciding it had played around long enough, and that it was now or never, let loose with both barrels. It came down in sheets, oversize, double bed sheets. Horses neighed in terror and drenched men talked about taking off their boots and swimming out of the flooded valley.

One could not sleep in such a rain—it would be better to keep moving. At 5:05 we broke camp and faced the driving rain, toward Camp Lockett.

It was the kind of a ride one could not film or forget. It was the kind of an experience one would never trade for a million dollars—or repeat again for a million dollars. It was bitter cold. The terrain was mountainous, uncertain, full of holes, scrub oak, mazanita, cacti, unexpected right angle curves banked by barbed wire.

\*Fictitious.

There were times when we splashed forward ankle deep in flooded valley bottoms. And twice, when we reached mountains' summits, we plodded along in the clouds, like the characters in "Lost Horizon" seeking Shangri-La. The rain had a stingy, snowy quality up there, and the heavy rolling movement of the spongy mist made us wonder if it weren't all a dream.

Shoes, pockets, saddle bags became filled with cold water. Saddles sloshed and gurgled with their riders' weight. Mounts had to be pulled along when they were led, squeezed unrelentingly when walked, kicked when trotted.

At ten o'clock the rain, as if having given its best, abated, slowed up to a drizzle, died. By 10:30 PM just as the first column of the Command Group led their indignant horses into Camp Lockett's stables one star came out and, by the time the last of the column was in, all the stars were out.

The camp was in blackout. Wet, frightened horses were slowly, inch by inch, led into strange, dark stables, tied, unbridled, unsaddled, and rubbed.

We had completed a three-day march in two days. We had been on the way 16½ hours since reveille. We were wet, tired, sore, but we were not unhappy. We had come home. For the first time since we left the Presidio of Monterey, November of last year, we would have hot showers in a really enclosed room. We would eat from real chinaware tomorrow, but, best of all, tonight we would sleep in real beds under a real roof. It was good to come home.



## "Silence The Agitator"

Pointing to the death penalty as a requisite of military organization, he (President Lincoln) inquired: "Must I shoot a simple-minded soldier boy who deserts, while I must not touch a hair of a wily agitator who induces him to desert? This is none the less injurious when effected by getting a father, or brother, or friend into a public meeting, and there working upon his feelings till he is persuaded to write the soldier boy that he is fighting in a bad cause, for a wicked administration of a contemptible government, too weak to arrest and punish him if he shall desert. I think that, in such a case, to silence the agitator and save the boy is not only constitutional, but withal a great mercy."—*Abraham Lincoln: The War Years*, by Carl Sandburg.



# THE SALINA FLOOD

*By Lieutenant George E. Roush, Signal Corps*

EDITOR'S NOTE: It is believed that this will be of interest to all Military Posts as the Army is often called for such duty.

\* \* \*

NORMALLY the Smoky Hill River which flows through the city of Salina, Kansas, lies quietly and peacefully within its banks save for an occasional spring freshet. However, during the night of October 19-20, 1941, after swelling for several days it overran its banks to flood the lower portion of the city.

By noon, October 20th, the civic officials were suffi-

ciently alarmed to request aid from the Second Cavalry Division located at Camp Funston, 65 miles distant.

Mayor Morganstern of Salina first asked for radio aid preferably mounted in vehicles. Major Mason H. Lucas, Division G-2, was immediately dispatched to Salina to look the situation over and Major General John Millikin, Division Commander, also dispatched 4 radio equipped scout cars under command of Lieutenant George E. Roush, in addition to 2 SCR-193 and 2 SCR-145 radios installed in the scout cars, 3 SCR-194 radios (walkie-talkie) were taken as their use in boats was anticipated. The latter radios were furnished by the Division Artillery.

Upon arriving at Salina, Major Lucas found no central control of aid and Mayor Morganstern was very anxious that the Major take over the relief. In line with Army policy, the Major declined to take over direct control but recommended that a civilian director be found under whom the Army personnel would be eager to assist in any way possible. The principle need at that time was boats. Major Lucas contacted Major Thomas D. Roberts, Division G-3, and a detachment of thirty men from the 74th Engineer Light Ponton Company, attached to the Second Cavalry Division, were on their way in short order.

Major Lucas and the Signal Detachment were able to go directly to Salina via US route 40—the Engineers coming later, found it necessary to detour to the north as the rising waters closed the highway.

Central control of relief, so important to any such mission was finally taken over by the Red Cross Emergency chairman and coördinated work to evacuate flooded areas was begun.

Some evacuation was already being done by private craft. Basing operations in Memorial Hall, local radio operators had set up communications between Memorial Hall and Iron Street Bridge.

Communication was set up between the base of operations at Iron Street bridge and Camp Funston through the help of the 1st Observation Squadron located at Marshall Field. An SCR-193 Radio Set was used as Net Control Station, the other two sets being used in evacuating areas not deeply covered by water.

Upon arrival of elements of the 74th Light Ponton Company, a "transfer" dock (at first, a high wagon; later a ponton boat) was placed at the intersection of Iron and Kansas Avenues. Communication between this dock and base was afforded by two SCR-194 sets. The method of operations was as follows: All telephone calls for relief were directed to Memorial Hall and from there to the Iron Street Bridge. The call was



*Top*—Emergency Dock, Iron Avenue, the principal north-south thoroughfare in Salina, served as an emergency dock for flood relief boats serving the city's inundated eastern section. Some of the boats seen here were sent to the flood area with an engineer company from Camp Funston, and several of the soldiers taking part in the rescue work appear in the photograph. The camera is pointed toward the east, where a large part of the town was under water from the flooded Smoky Hill River. *Bottom*—74th Engineer Light Ponton Company loading pontons for trip to the Salina flood.

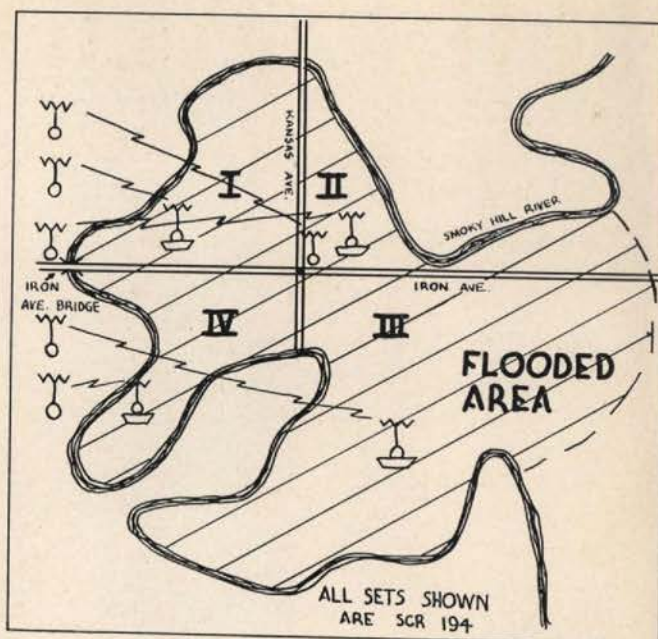


then radioed from the bridge to the "transfer" dock where the control dispatcher was located. He dispatched boats from the dock or radioed boats already in the area to make the rescue. Rescued persons were brought to the dock and unloaded to await further transportation. After sufficient number of persons had been gathered in on the dock to make a trip to the base practicable, they were taken off by a motorized ponton and brought to the Iron Street Bridge. After being disembarked, they were checked in at the desk by the *Red Cross* before being taken to Memorial Hall. The major part of the evacuation was carried on in this manner.

The river's rising, however, led to a change in method due to swift cross-currents set up at street intersections, endangering the small assault boats. Also, the current in and near the river proper became so swift that the assault boats could not safely navigate and the larger pontons had to be used. In order to effectively utilize these boats and to speed up the evacuation, for it seemed imminent that high speed rescuing might be necessary at any time, a slightly more elaborate method was developed.

Additional SCR-194 sets were requested from Camp Funston by radio and eight operators from the 16th Field Artillery Battalion with six SCR-194 sets soon appeared. The area was divided into 4 zones, as shown in sketch.

Each zone was evacuated by a light ponton boat (where swift water was encountered) or several assault boats. Each zone had contact to the base by one or more SCR-194 sets in boats. In addition to contact by means of the radio on the dock, a local guide indicated the proper radio set to be used at the base (SCR-194 sets do not lend themselves readily to netting). In this manner a boat or a boat group could remain in the zone until its capacity was filled before returning to the dock and the motorized ponton wending between base and dock could be more efficiently employed if it was also equipped with a set.



This latter plan is a method that lends itself to use in almost any similar situation.

The actual operation of evacuating this area was carried out under the most trying conditions. The weather was cold, wet and miserable but the men worked cheerfully and hard. Morale was at all times high. Cooperation between citizens and soldiers was very much in evidence.

One of the outstanding difficulties of any such operations is the over abundance of assistance. Local home guard units, lodges and other civic groups while trying to be helpful in many instances, do more to hinder than assist. Important, however, is the use of local guides both for radio and boat work that neither go misdirected. Central control of all army personnel is also important that the work is not split up in unnecessary missions that soldiers will attempt such as delivering groceries or removing furniture when actual life-saving work is to be done.





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## Book Reviews

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MODERN WAR—ITS ECONOMIC AND SOCIAL ASPECTS. A Bibliography, by Albert T. Lauterbach, Assistant Professor of Economics in the University of Denver, in collaboration with Robert A. Kann and Deborah A. Hubbard, Bibliographical and Research Assistants at the Institute for Advanced Study, Princeton, New Jersey.

It is not our policy to include reference in our Book Review Section to mimeographed documents. In this case, however, exception is made due to the importance of this subject.

The references are grouped under the headings of General, 17 pages; The United States, 7 pages; Germany, 6 pages; Great Britain and the Empire, 6 Pages; France, 2 pages; Italy, 3 pages; Japan and the Far East, 3 pages; and The Soviet Union, 2 pages.

Extra copies of this valuable bibliography can be obtained upon request to *The Institute for Advanced Study, Princeton, New Jersey*. If quantities are required a small charge will be made to cover costs.

1 1 1

THE STATE DEFENSE FORCE MANUAL. The Military Service Publishing Company, Harrisburg, Pa. 559 Pages. Well illustrated. \$1.00.

This manual contains just about everything necessary for infantry units of the State Defense Force. It would be highly valuable, also, for mounted units if used in conjunction with the Cavalry Field Manuals issued by the Government Printing Office and The Cavalry School Departmental texts (all obtainable through this office). See pages 108 and 109.

1 1 1

THE DELAWARE CONTINENTALS 1776-1783. By Christopher L. Ward. The Historical Society of Delaware, Wilmington, Delaware, 1941. 620 Pages. \$3.75.

"Suffering every extreme of cold and heat, hunger, thirst and fatigue in its seven years of service, it marched thousands of miles, bivouacked often on the bare ground in rain and snow, yet always went into battle with undaunted courage and spirit"—the Spirit of '76.

This history of the Delaware troops is a penetrating analysis of almost all of the important campaigns of the war of the American Revolution in a theater extending from New York to South Carolina.

The text is buttressed by appendices of source material which strengthens it both in authenticity and in local color.

There are several interesting incidental accounts of cavalry action.



INDIAN FIGHTING ARMY. By Fairfax Downey. Charles Scribner's Sons, New York. 1941. Profusely illustrated. 329 pages. \$3.50.

Here is one book that is well worth the price before one begins to read it. It contains forty-six reproductions of paintings and drawings by Frederic Remington, Charles Schreyvogel, R. F. Zogbaum, and others. The pages ring with heroic names—Sherman, Sheridan, Miles, Custer, Crook, and such great Indian captains as Chief Joseph of the Nez Percés, Geronimo of the Apaches, and Crazy Horse of the Sioux.

Mr. Downey has here for the first time gathered together a mass of facts and presented them in chronological and connected order (not all of them victories) to make an epic narrative of bravery and hardihood, inspirational and thrilling. It is the story of a magnificent army that was neglected, forgotten, often maligned and until this volume, as a whole, unsung—the Great West of America in the closing years of the Nineteenth Century, with cavalry playing the predominant rôle!

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Every cavalryman in particular will want a copy of this literary, historical and pictorial gem.

✓ ✓ ✓

AUTOMATIC ARMS—THEIR HISTORY, DEVELOPMENT AND USE. By Melvin M. Johnson, Jr. and Charles T. Haven. William Morrow & Co., New York, 1941. 150 illustrations. 344 Pages. \$4.50.

This book is preëminent in its field. It covers all phases of automatic arms. Divided into sections, it provides easy reference for those readers seeking specific kinds of information: Part I—History and Development; Part II—How They Work; Part III—How to Keep Them Firing; Part IV—How Employed in Combat; Part V—Miscellaneous Considerations, such as accuracy, mechanical work in machine guns for better functioning, design, critique, etc. Appendices include tables of weapons, types and diagrams of the operating parts of many of the automatic arms now in use as well as some of the famous types of the past.

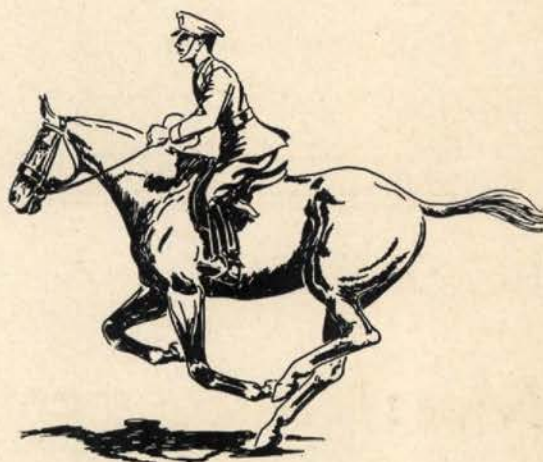
This book is a comprehensive and authoritative treatment of one of the most important factors in the present world conflict—the automatic weapon. It should be in every library.

✓ ✓ ✓

THE HYMNAL, ARMY AND NAVY. Edited by Evan L. Bennett, Chaplain, U. S. Army. A. S. Barnes & Co., New York. 1941. Complete index. 607 pages. \$1.50.

This hymnal, with music and special prayers for service—Protestant, Catholic, and Jewish—represents extensive collaboration with chaplains, publishers, and agencies serving the spiritual needs of our men in the Services. It is designed to meet the requirements of the limitations of time, space and funds usually available to service chaplains.

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MANUAL OF MESS MANAGEMENT. The Military Service Publishing Company, Harrisburg, Pa, 1941 (new). 340 Pages. Illustrations and appendices of useful information. \$2.00.

A properly managed army mess obviously is one of the greatest aids to health and morale. For years there has been a definite need for a single volume that contains all of the necessary assembled information, not only for the unit commander, the mess officer, the mess sergeant, the cook, but for every man in the organization whose duties affect messing the outfit.

This valuable book is not an official publication, but in our opinion it should be. It is based for the most part on the following official documents:

*Technical Manual 10-205, Mess Management*  
*Technical Manual 10-210, Inspection of Subsistence Supplies*

*Training Manual 2100-151, The Army Baker*

*Training Manual 2100-152, The Army Cook*

*Field Manual 8-40, Field Sanitation*

*Field Manual 21-10, Military Sanitation and First Aid.*

In addition to the above publications, the pamphlet, *Notes on Mess Management*, by the Coast Artillery School, and other data based on practical experience have been contributed.

*Manual of Mess Management* is complete and comprehensive. For greater mess efficiency, several copies should be made available immediately to every CCC, Military and Naval Mess.

† † †

SWORD PLAY. By Scott D. Breckinridge and Scott D. Breckinridge, Jr. A. S. Barnes & Co., New York. 1941. Illustrated. 100 pages. \$1.75.

In this new book, based on the French School of the Foil, the authors present in concise form the basic theory and technique of the Classical School. Supplemental comment upon the duelling sword and saber is included, together with information as to its application of the theory and technique to competition and of the pitfalls that await the unwary.

There are four groups to whom this book will appeal and have special value: "(1) the amateur fencer whose past interest has been in the practice rather than in the theory of the art, but who has been drafted as coach in one of the colleges that has no available professional; (2) the instructor in the Department of Physical Education who, with only a minimum of personal knowledge, is called upon for class instruction; (3) the amateur fencer who has become somewhat vague in his memory of theory, rules, and conventions, but finds that he is to be called upon to act as an official in local fencing matches; and (4) the young fencer who must either give up fencing or find his way as best he may without the advantages of instruction."

Dr. Breckinridge was a member of the West Point Fencing Team, 1902-1903; Intercollegiate Foils Champion, 1903; National Foils Champion, 1906 and 1914; member of the Olympic Team 1912. He was coach at the University of Kentucky from 1937 until his death in 1941. His son and co-author was captain of the University of Kentucky fencing team.



BE A BETTER HORSEMAN. By Captain Vladimir S. Littauer. The Derrydale Press, New York. 230 illustrative photographs, index. 251 Pages. \$10.00.

This is not a textbook and then again it is; or perhaps more correctly put, it is something new in textbooks on the subject of equitation.

When the author published *Riding Forward* and *More About Riding Forward* he immediately won acclaim in horse circles for his thorough and comprehensive exposition of the subject. In *Be a Better Horseman* he has included much of his former material but his method of presentation is truly unique. In this instance he has chosen to write a book in conversational form and all of the usual questions an instructor hears during his lessons are answered. In this manner the dryness and monotony common to most textbooks are admirably eliminated.

The excellently posed photographs are so closely connected with the material that in a sense the whole story is but a minute description of the pictures.

This book would be invaluable to civilians who are not familiar with terminology ordinarily found in military textbooks on horsemanship and horsemastership. On the other hand, our mounted services will find it of extreme interest and value. We recommend it!

✓ ✓ ✓

SIGNPOSTS OF EXPERIENCE. By Major General William J. Snow, U.S.A. Retired. United States Field Artillery Association, Washington, D. C., 1941. Illustrated. 317 Pages. \$2.75.

The author, Chief of Field Artillery 1918-1927, needs no introduction to army men. We all know of General Snow's tireless and progressive effort towards the improvement of his arm.

With characteristic clarity General Snow describes in this volume the complex problems that confronted him and the solutions that he reached or sought.

Although General Snow's work, for the most part, is a source book on a phase of our first World War and post-World War military effort, it all has an application to our present situation. His experiences as set forth are replete with lessons, hints and suggestions that are of especial and timely value.

✓ ✓ ✓

FORTY MILLION HOOFBEATS. By Frank M. Heath, David Turet, New York. 1941. 465 Pages. \$3.50.

In this current era of literary sensualism and sensationalism this book is truly refreshing. Writing in a fascinating style the author takes us on a factual 11,356-mile horseback ride with the great horse, *Gypsy Queen*, under saddle. She covered the greatest distance ever recorded of a continuous journey on foot, visiting every state in the Union.

*Gypsy Queen* "lived off the country" eating whatever feed was available, drinking all kinds of water and putting up with any kind of shelter. She was a great trooper.

The vivid account of the many kindnesses extended the travellers in remote parts of this great continent by all sorts of humble folk will restore to the reader a fresh faith in humanity in these heart-breaking times. Sergeant Heath's day-by-day account of his experiences constitutes a liberal education in Americana.

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| 56.  | (23- 70 ) | 37-mm. AT Gun, M3 . . . . .                            | .25  |
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# Horse Feathers



## Dixie?

TROOPER: "Shall we hug and kiss and tell jokes?"

WHOOPER: "Oh, let's not jest now."

✓ ✓ ✓

*Experience is a dead loss if you can't sell it for more than it cost you.*

✓ ✓ ✓

MOTHER: "Remember, daughter, never marry a wild an' woolly an' hard-to-curry cavalryman."

THE WISE CHEILD: "Gee, Ma, *never?*"

✓ ✓ ✓

CORPORAL (on the target range): "I told you to take a fine sight. Don't you know what a fine sight is?"

ROOKIE: "Sure, a boat load of corporals sinking." (Then the fun began!)

✓ ✓ ✓

*A poor marksman can be an expert at killing a good thing.*

✓ ✓ ✓

SON: "Dad, they say, 'there is no fool like an old fool.'"

COLONEL: "It is only that he is conspicuous by his rarity, son."

✓ ✓ ✓

CORPORAL: "Is there any way I can tell whether or not that girl is in love with me?"

SERGEANT: "Sure! If she knows what an ass you are making of yourself over her, then she ain't!!"

✓ ✓ ✓

## Weight Reducer

BEST METHOD: Rotate the head slowly from right to left whenever offered a second helping of chow.

✓ ✓ ✓

RECRUIT: "How do you lift a mare's hind foot without getting kicked?"

SERGEANT: "Well, lad, first yer just edge up, sorta indifferent. Then gently touch her back, tender-like—and ease yer mit affectionately down her thigh. Savvy?"

RECRUIT: "Steady, Sarg. I mean hoss."

✓ ✓ ✓

*"Lost: A chain of sixty golden minutes, each link set with sixty diamond seconds. No reward offered; it is gone forever."*

## Confidentially

At PX (5:00 PM): "Here come Mr. and Mrs. C.O., and, believe me, he's got what she takes!"

✓ ✓ ✓

The way to get a better assignment is to do the one we have better.

✓ ✓ ✓

PRIVATE EXPERIENCE (in store): "Won't you take something off for cash?"

SALES GIRL: "Sir!!??"

✓ ✓ ✓

Then there was the gal who became popular by changing her brand of cigarettes. She used to *walk a mile* and now she *satisfies*.

✓ ✓ ✓

CORPORAL: "How can you continue to eat in that *Quick and Dirty?*"

SERGEANT H & M: "Oh, I just take a shot of *Drano* afterwards."

✓ ✓ ✓

Virtue is learned at mother's knee, but vice at some other joint.

✓ ✓ ✓

COLONEL: "Did your husband get hurt badly when he was hit by a scout car, Liza?"

LIZA: "Yassah. He suffered from conclusion of the brain."

COLONEL: "You mean concussion of the brain, don't you, Liza?"

LIZA: "No, suh. I mean conclusion. He's daid!"

✓ ✓ ✓

## Black and Blue, Perhaps

POSTMASTER: "How's that son in the cavalry gettin' on, Mrs. Wiggins?"

MRS. W.: "Grand! They just made him color sergeant."

P.M.: "Have they? What color?"

✓ ✓ ✓

A dud is a shell that fails to explode.

A dud, also, is a trooper who does *explode*.

✓ ✓ ✓

*In these turbulent times it is unwise to believe anything we hear and little of what we see. So don't tell anybody!*



# War Department Changes

## CAVALRY PERSONNEL

(From November 15, 1941 to January 10, 1942)

- Captain James P. Abbott, from Ft. Riley, Kans., to off., C. of S., Washington, D. C.
- Captain Lawrence J. Alexander, det. IG, Dec. 20, to hq. AC Tech. Tr. Comd., Tulsa, Okla.
- Lieutenant Thomas S. Anderson, from Ft. Knox, Ky., to A. C. R. C., Maxwell Field, Ala.
- Major Julian M. Andrus, to 2d Interceptor Comd., Ft. Lawton, Washington.
- Captain Carroll W. Arford, from Ft. Knox, Ky., December 15, to Off., C. S. O., Washington, D. C.
- First Lieutenant Gilbert C. Arnold, from Ft. Bliss, Tex., to San Francisco Port of Embarkation, Ft. Mason, Calif.
- Lieutenant Robert W. Arnold, from Brooks Field, Tex., to 91st Obs. Sq., Pine Camp, N. Y.
- Lieutenant Lewis L. Austin, to Hqs. Air Support Comd., Mitchel Field, N. Y.
- Captain David D. Babcock, from Ft. Riley, Kans., January 5, to off., C. S. O., Washington, D. C.
- Colonel J. A. Baer, G. S. C., will retire April 30, statutory age limit; relieved Governors Island.
- Lieutenant Arthur B. Baldwin, to 4th Interceptor Comd., March Field, Calif.
- Lieutenant Harold L. Barr, to Air Serv. Comd., Middletown, Pa.
- Lieutenant Wm. J. Barter, S. C. Rep. Cen., Ft. Monmouth, N. J.
- Lieutenant Irvin L. Basler, to Air Serv. Comd., Middletown, Pa.
- Captain Charles R. Bean, from Camp Livingston, La., to Cav. Rep. Tr. Cen., Ft. Riley, Kans.
- First Lieutenant William F. Beaty, prior orders amended, from 2d Cav. Div., Ft. Riley, Kans.
- Lieutenant Perry Benson, to Air Serv. Comd., Middletown, Pa.
- Lieutenant Colonel L. S. S. Berry, relieved 7th C. A. S. C., Fort Riley; assigned Hq., 4th C. A., Atlanta.
- Lieutenant Frank R. Bertero, to 59th Obs. Sq., Fort Dix, N. J.
- Major Charles P. Bixel, from Ft. Oglethorpe, Ga., to Off., C. of Cav., Washington, D. C.
- Lieutenant Colonel Francis T. Bonsteel, from Ft. Knox, Ky., December 27, to hq., 2d Corps Area, Governors Island, N. Y.
- Lieutenant Thos. J. Brett, to 126th Obs. Sq., Fort Dix, N. J.
- Colonel John K. Brown, retirement revoked; prior orders amended, Ft. Bliss, Tex., to 8th C. A. S. C., that station.
- Major John V. Brown, from Ft. Jackson, S. C., to Army Air Forces, Washington, D. C.
- Captain Oral J. Brown, to 4th Interceptor Comd., March Field, Calif.
- Lieutenant Dickson D. Bruce, to Air Serv. Comd., Sacramento, Calif.
- Major Wm. M. Burgess, relieved 5th Cav., Fort Bliss; assigned Hq., Army Air Forces, Washington, D. C.
- Captain Louis Buttner, prior orders amended, December 20, 1941, instead of December 10, 1941.
- Lieutenant Colonel James N. Caperton, Ft. Riley, Kans., to Cav. Board, Ft. Riley, Kans.
- Captain Robert W. Castle, from Ft. Riley, Kans., to C. of Cav. Off., Washington, D. C.
- Lieutenant Durland E. Clark, Jr., to S. C. Rep. Tr. Cen., Fort Monmouth, N. J.
- Second Lieutenant Roy J. Clinton, prior orders amended, to 4th Cav., Ft. Meade, S. Dak.
- Lieutenant Edward A. Cockey, to S. C. Rep. Tr. Cen., Ft. Monmouth, N. J.
- Captain Robert C. Cockran, from Ft. Knox, Ky., to Off., C. of C., Kansas.
- First Lieutenant Haskett L. Conner, Jr., from Ft. Benning, Ga., December 17, to 1st Cav. Div., Ft. Bliss, Tex.
- Lieutenant Colonel Leo B. Conner, det., G. S. C., December 15, to 1st Armored Div., Ft. Knox, Ky.
- Second Lieutenant Philip G. Connor, from Ft. Brown, Tex., to 2nd Interceptor Comd., Ft. Lawton, Washington.
- Colonel Paul H. McG. Converse, prior orders revoked, from Washington, D. C., to Off., P. M. G., Arlington Cantonment, Va.
- Captain Ira D. Cope, to Air Serv. Comd., Wellston, Ga.
- First Lieutenant John K. Cunningham, from Ft. Myer, Va., December 10, to Off., C. of S., Washington, D. C.
- First Lieutenant Leander A. Dailey, from Arlington Cantonment, Va., December 17, to 1st Infantry Div., Ft. Devens, Mass.
- Second Lieutenant Howard F. Davis, Ft. Riley, Kans., to Cav. Rep. Tr. Cen., that station.
- Captain Frank J. Day, from Ft. Jackson, S. C., to M. P. School, Arlington Cantonment, Va.
- Captain Richard E. S. Deichler, from Olmsted Field, Pa., to Hqs., Army Air Forces, Washington, D. C.
- Colonel Calvin De Witt, Jr., relieved detail as member of G. S. C., assignment W. D. G. S., and office, C. of S., Washington, D. C.; assigned New York Port of Embarkation.
- Lieutenant Samuel W. Dobyns, to Cav. Det., Ft. Myer, Va.
- Captain Wm. D. Dorbritz from Ft. McIntosh, Texas, to 119th Obs. Sq., Ft. Dix, N. J.
- Captain John K. Dufton, to 4th Interceptor Comd., March Field, Riverside, Calif.
- Lieutenant Colonel Frederick F. Duggan, from Ft. Knox, Ky., to San Francisco Port of Embarkation, Fort Mason, Calif.
- Second Lieutenant Louis Dups, from Fort Devens, Mass., December 26, to Off., C. of S., Washington, D. C.
- Captain James G. Earnest from Brooks Field, Tex., to 91st Obs. Sq., Pine Camp, New York.
- Captain Charles L. Ebert, Camp Forrest, Tenn., to 128th Obs. Sq., that station.
- Major Charles H. Edwards, to I. G. D., Hq., Second Army, November 25.
- Lieutenant Dan L. Evander, to 2d Interceptor Comd., Ft. Lawton, Washington.
- Lieutenant Colonel H. E. Featherstone will be retired for physical disability December 31st; relieved Fort Sam Houston.
- Lieutenant Colonel Herbert E. Featherstone, to active duty, January 1, date following retirement, to Central Catholic H. S., San Antonio, Tex.
- Captain Daniel C. Fahey, from Ft. Riley, Kans., to Off., C. of Cav., Washington, D. C.
- Second Lieutenant F. C. Fitzpatrick's orders further amended to assign him 4th Cav., Fort Meade, S. Dak., upon completion of basic horse and mechanical course, Cav. Sch., Fort Riley.
- Lieutenant Colonel L. C. Frizzell, relieved Hq., IV Army Corps, Jacksonville, January 5; assigned 3d Cav., Fort Myer.
- Lieutenant Colonel James V. Gagne, from Ft. Knox, Ky., to home to await retirement.
- First Lieutenant Michael R. Galland, from Ft. Knox, Ky., December 21, to inactive status.
- First Lieutenant Kenneth E. Gardner, prior orders amended, "First Lieutenant Kenneth E. Gardiner."
- Major Edwin P. Geesey, Washington, D. C., det., in G. S. C.
- Captain James C. Gentle, Ft. Riley, Kans., to faculty, Cav. Sch., that station.
- Major Alexander George, from Panama Canal Dept., to 56th Cav. Brig., Ft. McIntosh, Tex.
- Captain John F. Gibbons, Jr., from Brooks Field, Tex., to Air Service Comd. Subdepot, Enid, Okla.
- Brigadier General Frederick Gilbreath, to comd., San Francisco Port of Embarkation, Ft. Mason, Calif.
- Lieutenant James E. Glover, to 1st Photo Group, Bolling Field, Washington, D. C.
- Lieutenant Clifford H. Gray, Jr., to 4th Air Support Command, Hamilton Field, Calif.
- Lieutenant Billy G. Griffith, from MacDill Field, Fla., to A. C. R. C. Maxwell Field, Ala.
- Lieutenant Nelson S. Groome, to Cav. Det., Ft. Myer, Va.
- Lieutenant Robert E. Haegelin, to Air Serv. Comd., Sacramento, Calif.
- Lieutenant Preston D. Hale, from Ft. McIntosh, Tex., to 59th Obs. Group, Ft. Dix, N. J.
- Second Lieutenant Wesley B. Harrell, from Ft. Clark, Tex., to sta. comp., A. C. A. F. S., Mission, Tex.
- Major Thomas L. Harrold, from Hartford, Conn., January 31, to 2d Cav. Div., Ft. Riley, Kans.
- Second Lieutenant Nathan Hayward, Jr., from Indianatown Gap, Pa., to Off., C. of E., Washington, D. C.
- Lieutenant Colonel Gordon J. F. Heron, from Columbus, Ohio, to Hartford, Conn.
- First Lieutenant Walter J. D. Hewitt, from Ft. Riley, Kans., to 56th Cav. Brigade, Ft. McIntosh, Tex.
- Captain Adolphus K. Heyner, from Fort Hayes, Ohio, to Off., J. A. G., Washington, D. C.
- Captain Wm. M. Hill, to Air Serv. Comd., Sacramento, Calif.
- Captain Geo. W. Hoar, to 4th Interceptor Comd., March Field, Calif.
- Lieutenant Everett M. Hockwald, to Air Serv. Comd., Sacramento, Calif.
- Lieutenant Chas. T. Holmes, to 91st Obs. Sq., Pine Camp, N. Y.
- Lieutenant Henry B. Holmes, III, to S. C., Rep. Tr. Cen., Fort Monmouth, N. J.
- Captain Luther A. Holmes, from Ft. Riley, Kans., to Armd. Force Sch., Ft. Knox, Ky.
- Lieutenant Colonel J. D. Hood, relieved O. R., 2d C. A., New York City; detailed Univ. of Illinois, Urbana.



Captain Ernest C. Hudgins, Jr., from Ft. Knox, Ky., to Off. C. of S., Washington, D. C.  
Lieutenant Pierce P. Hurley, 59th Obs. Group, Ft. Dix, N. J.

Lieutenant Colonel Nelson M. Imboden, retired, January 31, at own application.

First Lieutenant Milton J. Ingeman, Ft. Knox, Ky., to post QM., that station.

Lieutenant Colonel Wm. R. Irvin, Fort Bliss, Texas, to 7th C. A. S. C., Ft. Riley, Kans.

Captain Wm. A. Johnson, from Ft. McIntosh, Texas, to 101st Sq., Camp Edward, Mass.

Lieutenant Wm. E. Johnson to 1st Interceptor Comd., Windsor Locks, Conn.

Major Malcolm D. Jones, from Ft. Knox, Ky., to Army Air Forces, Washington, D. C.

Lieutenant Colonel Marcus E. Jones, from Ft. Riley, Kans., to 4th Motorized Div., Ft. Benning, Ga.

First Lieutenant William P. Jones, Jr., Ft. Riley, Kans., to 2d Cav. Div., that station.

Lieutenant Michael P. Jury, to 1st Interceptor Comd., Windsor Locks, Conn.

Major Roy D. Keehn, Jr., from Camp Livingston, La., to faculty, Cav. Sch., Ft. Riley, Kans.

Second Lieutenant Richard D. Kelly, prior orders revoked, from Camp Polk, La., November 25, to S. C. Rep. Tr. Cen., Fort Monmouth, N. J.

Lieutenant Wm. J. Kemp, to 26th Obs. Group, Providence, R. I.

Major Stephen J. Kennedy, from Washington, D. C., November 30, to inactive status.

Lieutenant Carlton C. Keyes, to Air Serv. Comd., Middletown, Pa.

Captain William N. Kirkpatrick, Ft. Bliss, Tex., November 15, to 16th QM Sqdr., that station.

Captain Glen L. Laffer, from Camp Bowie, Tex., to sta. comp., A. C. A. F. S., Midland, Tex.

Major Clarence J. Lambert to A. C. A. F. S., Midland, Tex.

Major Walter R. Lee, to A. C. A. F. S., to Midland, Tex.

Lieutenant Frank B. Leinbach, Air Serv. Comd., Sacramento, Calif.

Captain Furman H. Limburner, to 1st Photo Group, Bolling Field, Washington, D. C.

First Lieutenant Robert B. Lincoln, from Pine Camp, N. Y., February 11, to inactive status.

Captain Russell C. Lord, from Washington, D. C., January 7, to faculty, MP Sch., Arlington Cantonment, Va.

Lieutenant Henry M. McAleenan, 119th Obs. Sq., Ft. Dix, N. J.

First Lieutenant Warren L. McKinney, from Indiantown Gap, Pa., to Cav. Rep. Tr. Cen., Ft. Riley, Kans.

Lieutenant Cornelius A. McManus, Air Serv. Comd., Sacramento, Calif.

Major Paul MacK. Martin, from Ft. Riley, Kans., to Hq., 9th Army Corps, Ft. Lewis, Wash.

Lieutenant Colonel Paul J. Matte, from Ft. Oglethorpe, Ga., to 1st Cav. Div., Ft. Bliss, Tex.

Lieutenant Edward J. Meegan, to 119th Obs. Sq., Fort Dix, N. J.

Lieutenant Colonel Harry C. Mewshaw, from Ft. Bliss, Tex., to Cav. Rep. Tr. Cen., Ft. Riley, Kans.

Major J. A. Michela, appointed to temporary rank of lieutenant colonel, while assigned as military attaché to U. S. S. R.

First Lieutenant Hope C. Miles, from Washington, D. C., to New York, N. Y.

Captain Wm. J. Miles, from Fort McIntosh, Texas, to 1st Air Support Comd., Mitchel Field, New York.

Second Lieutenant John Millikin, Jr.'s orders further amended to assign him 2d Cav.

Div., Fort Riley, upon completion of temporary duty as student, basic horse and mechanical course, Fort Riley.

Second Lieutenant Charles E. Moore, Jr., from Fort Myer, Va., to 6th Cav. Regt., Ft. Oglethorpe, Ga.

Captain Edward C. Moore, from Ft. McIntosh, Texas, to 1st Air Support Comd., Mitchel Field, N. Y.

Major George B. Morse, from Springfield, Ill., to Cav. Rep. Tr. Cen., Ft. Riley, Kans.

Lieutenant Colonel H. A. Myers, detailed as member of G. S. C.; assigned G. S. with troops, and with G. S. C., Hq., 4th C. A., Atlanta.

Lieutenant Franklin W. Nicholai to 2d Interceptor Comd., Ft. Lawton, Wash.

Captain Delk M. Oden, from Ft. Riley, Kans., to 4th Armored Div., Pine Camp, New York.

Lieutenant Edward P. O'Kane, to 1st Photo Group, Windsor Locks, Conn.

Lieutenant Lockwood M. Pennell, to Tow Target Det., Manchester, N. H.

Lieutenant Cornelius Perry, II, to 91st Obs. Sq., Pine Camp, N. Y.

Lieutenant Colonel Donald S. Perry, from Washington, D. C., January 20, to Cav. Rep. Tr. Cen., Ft. Riley, Kans.

Lieutenant Lawrence R. Pierce, to Tow Target Det., Mitchel Field, N. Y.

Lieutenant Colonel Frederick R. Pitts, from Ft. Knox, Ky., to Army Air Forces, Washington, D. C.

Captain Charles M. Pollack, to 2d Interceptor Comd., Ft. Lawton, Wash.

First Lieutenant Chas. E. Pratt, to Air Serv. Comd., Sacramento, Calif.

Lieutenant Robert Ranlet, Jr., to Tow Target Det., Manchester, N. H.

Lieutenant Colonel George W. Reade, Jr., from Ft. Knox, Ky., to G. S. C., Hq., 1 Armd. Corps, that station.

Captain Jules V. Richardson (1st Lt.) temp. appointment as Captain terminated, December 2, from Camp Polk, La., to home to await retirement.

Lieutenant Chas. B. Roberts, to 4th Inceptor Comd., March Field, Calif.

Lieutenant Walter O. Roney, to 4th Inceptor Comd., March Field, Riverside, Calif.

First Lieutenant Broadford Ross, from Ft. Lewis, Washington, to Off., P. M. G., Washington, D. C.

Major John L. Ryan, Jr., from Ft. Knox, Ky., det., to G. S. C.

Lieutenant Elwood F. Ryder, to S. C. Rep. Tr. Cen., Ft. Monmouth, N. J.

Lieutenant Edward H. Schroeder, to Air Serv. Comd., Sacramento, Calif.

Second Lieutenant Richard P. Scott, prior orders amended, to 2d Cav. Div., Ft. Riley, Kans.

Second Lieutenant Charles R. Shannon, from Ft. Knox, Ky., December 13, to 91st Obs. Sqdn., Pine Camp, N. Y.

Lieutenant Colonel V. F. Shaw, now on duty in office, C. of S., Washington, D. C., is detailed as member of G. S. C. and assigned W. D. G. S.

Lieutenant Ralph G. Shank, to Air Serv. Comd., Wayne Co. Airport, Romulus, Mich.

Captain S. D. Slaughter, Jr., Ft. Riley, Kans., to 2d Cav. Div., that station.

Second Lieutenant Leon R. Slocum, from Ft. Devens, Mass., to sta. comp., A. C. Rep. Tr. Cen., Maxwell Field, Ala.

Lieutenant Edward T. Smith, to Tow Target Det., Manchester, N. H.

Lieutenant Colonel G. I. Smith, relieved office, C. of Cav., Washington, D. C., assigned 2d Cav. Div., Fort Riley.

Captain Lathrop E. Smith, from Camp Polk, La., to Off., C. of Cav., Washington, D. C.

Captain David T. Stafford, from Fort McIntosh, Texas, to Air Serv. Comd., Sacramento, Calif.

First Lieutenant Alonzo F. Stark, from Ft.

Riley, Kans., to 4th C. A. S. C., Fort Oglethorpe, Ga.

Lieutenant Colonel H. P. Stewart's orders relieving him 3d C. A. S. C., Fort G. G. Meade, Md., and assigning him 3d Cav., Ft. Myer, revoked.

Lieutenant Colonel O. R. Stillinger, relieved 1st Cav. Div., Fort Bliss; assigned S. F. Port of Embarkation, Fort Mason.

Major John H. Stodter, Ft. Riley, Kans., to 2d Cav. Div., that station.

Major Thomas F. Taylor, from Ft. Oglethorpe, La., to student Naval War College, Newport, R. I.

Second Lieutenant Wentworth J. Tellington, from Governors Island, N. Y., to U. S. M. A., West Point, N. Y.

Colonel Arthur P. Thayer, from Ft. Leavenworth, Kans., December 5, to G. S. C., Hq., Second Army, Memphis, Tenn.

Major H. J. Theis, detailed as member G. S. C.; assigned G. S. with troops, and with G. S. C., 1st Cav. Div., Fort Bliss.

Lieutenant John H. Trull, 91st Obs. Sq., Pine Camp, N. Y.

Colonel A. H. Truxes, relieved 6th Cav., Fort Oglethorpe; assigned Hq., 4th C. A., Atlanta.

First Lieutenant W. L. Turner, relieved 2d Cav. Div., Fort Riley; assigned 4th Armored Div., Pine Camp, N. Y.

Lieutenant Ben. T. Wade, to S. C. Rep. Tr. Cen., Ft. Monmouth, N. J.

Lieutenant Colonel Thomas D. Wadleton, retirement revoked.

Captain Jesse L. Waite, Indiantown Gap, Pa., to Army Air Forces, Washington, D. C.

Captain Edwin R. Wallace, to 4th Interceptor Comd., March Field, Calif.

First Lieutenant Alan MacN. Warfield, from Ft. Benning, Ga., December 31, to Off., C. of S., Washington, D. C.

Lieutenant Harold F. Weidner, to 1st Photo Group, March Field, Riverside, Calif.

Lieutenant John P. Wheeler, to Air Serv. Comd., Wellston, Ga.

Colonel Frank L. Whittaker, from Ft. Jackson, S. C., November 25, to Hq., 4th Army, Presidio of San Francisco, Calif.

First Lieutenant Leslie R. Wilcox, prior orders amended, January 8, 1942, to 4th Armd. Div., Pine Camp, N. Y.

Lieutenant Colonel Candler A. Wilkinson, from Ft. Riley, Kans., January 2, to Off., in charge, South Central Remount Area, San Angelo, Texas.

Lieutenant Colonel Ernest A. Williams, from Washington, D. C., to 1st Cav. Div., Ft. Bliss, Texas.

Major James S. Williams, from Indiantown Gap, Pa., January 9, to faculty, S. C. School, Ft. Monmouth, N. J.

Major Andrew W. Willis, from Ft. Lewis, Wash., to sta. comp., A. C. B. F. S., Moffett Field, Calif.

Major Arthur N. Willis, from Camp Seeley, Calif., to 7th C. A. S. C., Ft. Riley, Kans.

Lieutenant Benj. D. Willis, from Ft. Devens, Mass., to A. C. R. C., Maxwell Field, Ala.

Captain Arthur McD. Wilson, III, from Ft. Benning, Ga., to Off., Chief of Morale Branch, Washington, D. C.

Lieutenant Earl S. Wilson, to 1st Photo Group, March Field, Riverside, Calif.

Lieutenant Kenneth C. Willson, to 2d Interceptor Comd., Ft. Lawton, Wash.

Captain Wm. J. Wiseheart, from Ft. McIntosh, Texas, to Tow Target Det., Mitchel Field, N. Y.

Captain Carroll Wright, from Camp Polk, La., to Cav. Rep. Tr. Cen., Ft. Riley, Kans.

Major W. W. Yale, relieved office, C. of Cav., Washington, D. C., December 6; detailed as member G. S. C.; assigned G. S. with troops, and Hq., 1st Cav. Div., Fort Bliss; to report for temporary duty at Fort Lewis; previous orders revoked.



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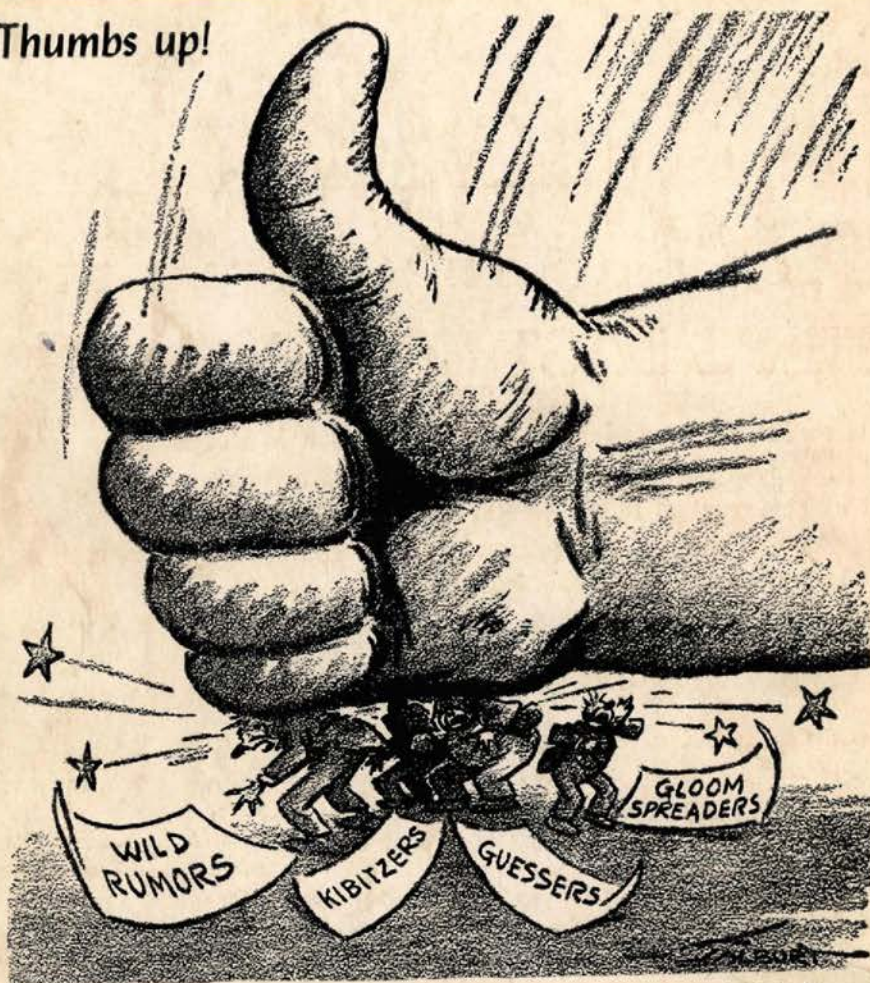
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*The aim and purpose of the Association shall be to disseminate knowledge of the military art and science, to promote the professional improvement of its members, and to preserve and foster the spirit, the traditions, and the solidarity of the Cavalry of the Army of the United States.—Article III, Constitution.*

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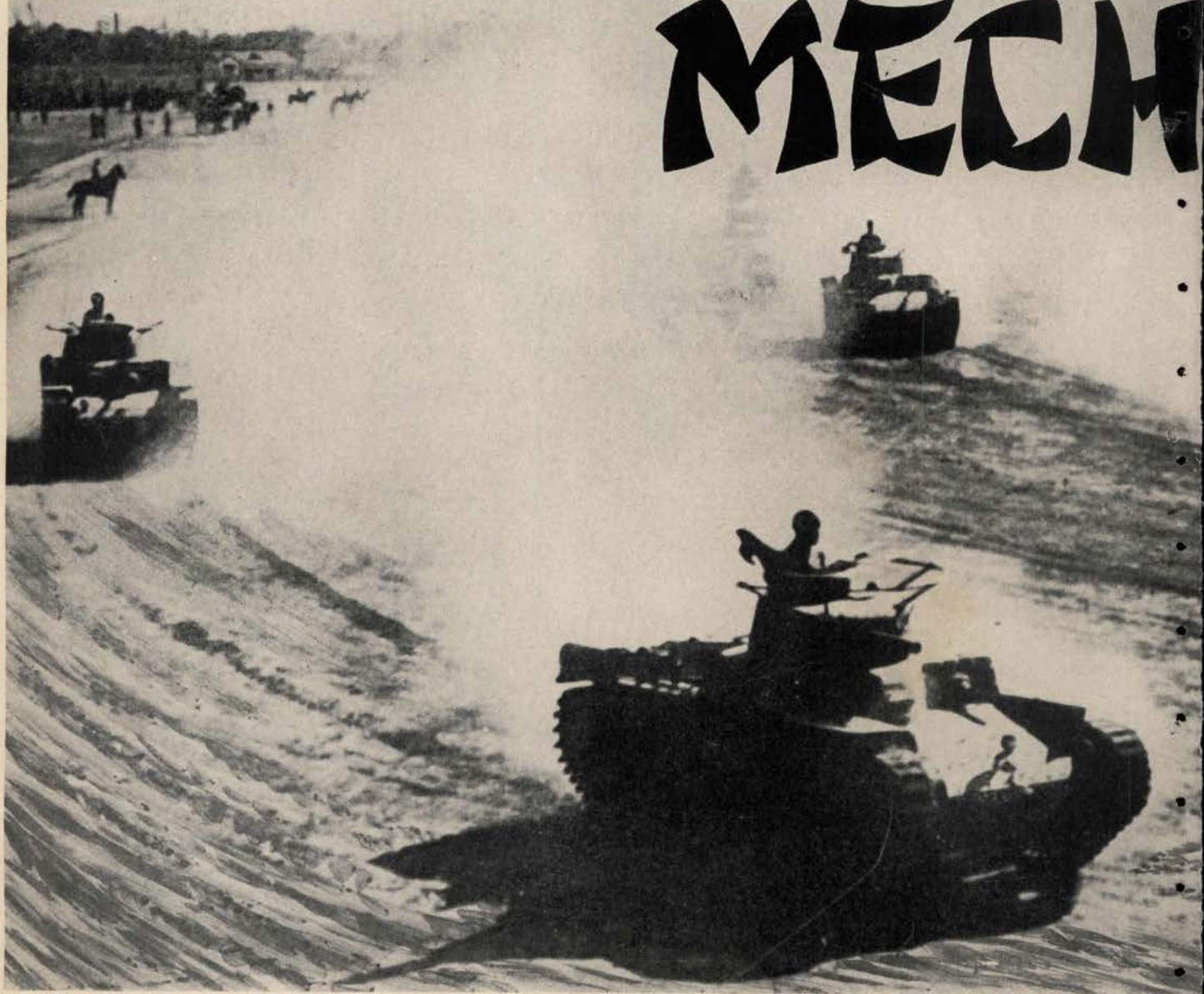
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# JAPANESE MECH





# ANIZATION





# Japanese Tank Employment

THERE are 15 or more known models of tanks in the Japanese Army. It will be noted that the basic types are few and a slight modification is given a new designation. For convenience, the tanks are classified according to weight as tankettes, light, medium, and heavy tanks.

*Tactical doctrine.*—As a result of experience in the Manchurian incident, the present war in China, and the clash with the Russians at Changkufeng, the Japanese Army has acquired a lively appreciation of the value of mechanization. Large sums of the current re-equipment budget have been set aside to push the mechanization program. Much thought is being given to the proper use of this new weapon in the light of the experience of the Japanese Army itself and of that of foreign armies. A distinguishing feature of the new Combat Regulations (Sakusen Yomurei) is the modification, extension, and detailed expatiation of the paragraphs devoted to the use of tanks and mechanized units. As in other countries, the Japanese are not sure of the proper use of these weapons and are not yet prepared to commit themselves to a detailed tactical doctrine. Hence, the new regulations, while giving additional space to considerations of mechanization treat the subject with broad generalities which leave considerable doubt as to whether the Japanese have worked out many of the practical details of such highly involved questions as infantry-tank-artillery liaison, control by higher commanders, logistics of mechanized forces, etc.

*Strength.*—At the outbreak of the China incident, the known mechanized strength of the Japanese Army consisted of two tank regiments. While the wartime

expansion of tank units is not definitely known, it is believed that in 1939 there was the equivalent of six tank regiments in China and of one organic tank company in each division. No formally organized large mechanized units (brigades or divisions) are known to exist in the Japanese Army; however, improvised mechanized units have been used on the continent repeatedly with considerable success. Such units, while probably without elaborated tables of organization and equipment, are organized on the basis of expediency and availability of matériel with the usual reconnaissance, ground-holding, shock, and supply components which characterize the mechanized brigades and divisions of foreign armies.

## TANKS WITH DIVISION

*Tactics—Offensive.*—The tanks with a division are normally used as *accompanying tanks* attached to the infantry units making the principal attack. Such tanks are brought up secretly prior to the attack to assembly positions about 3 miles behind the line of departure. Here final reconnaissance and attack preparations are completed. Tank commanders confer with the infantry regimental and battalion commanders to whom they are to be attached as well as with the artillery which is to support the attack. Topics for conference and decision are: tank objectives and hour of attack; tank jump-off positions; routes to the jump-off position and the subsequent zone of advance; type of artillery support desired

(Continued on page 7)

Japanese reported as having employed these *one man tanks* in the Malay Peninsula fighting.







### JAPANESE TWO-MAN TANKETTE M2592 (1932)

These photographs were made in 1940 when the Japanese entered the Kikawei (French) Section of Shanghai.

#### DATA

Crew: 2 (1 driver and 1 gunner).

Armament: L.M.G. in turret.

Armor: 0.31 to 0.55 inch thickness.

Communications: Flag.

Dimensions: Length: 10 feet, 2 inches.

Width: 5 feet, 9 inches.

Height: 5 feet, 4 inches.

Weight: 3 tons.

Motor: Type 4-cylinder, air cooled, 45 h.p.

Steering, brake or controlled differential: Front sprocket.

Maximum Speed: 30 m.p.h.

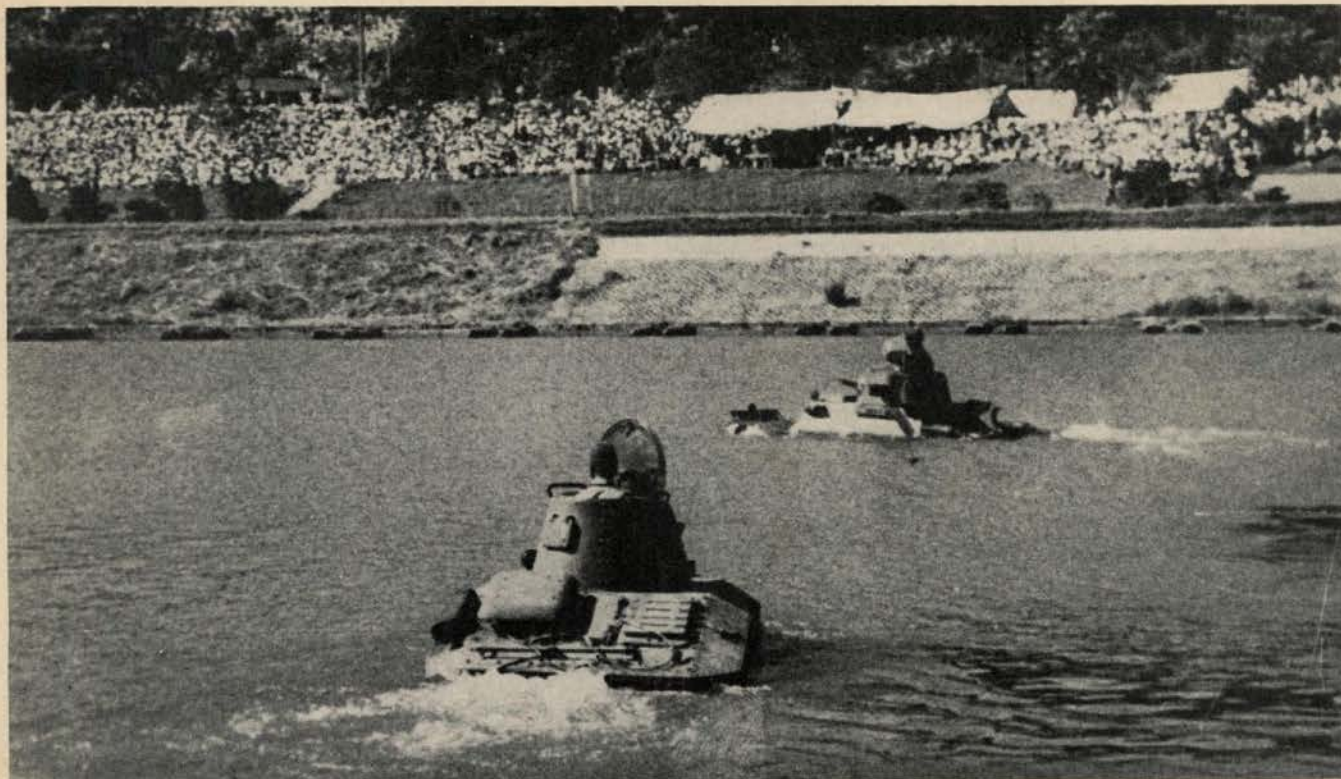
Suspension type: 4 bogie wheels. 2 bogies, Carden Lloyd system.

Ground clearance: 1 foot, 1 inch.

Remarks: Also known as light armored vehicle, used with trailer for supply and intercommunication.







#### AMPHIBIOUS MODEL (EXPERIMENTAL) LIGHT TANK

Japanese tanks, according to American and European standards of types, are of much lighter construction.

*Tankette M 2595* (1935) has a crew of two men, carries one 37-mm. gun in turret and two machine guns in hull fore.

Armor: 0.47 inch.

Length: 13 feet, 9 inches; Height: 6 feet, 5 inches.

Weight: 4 tons; 70 h.p.; Maximum Speed, 22 m.p.h.

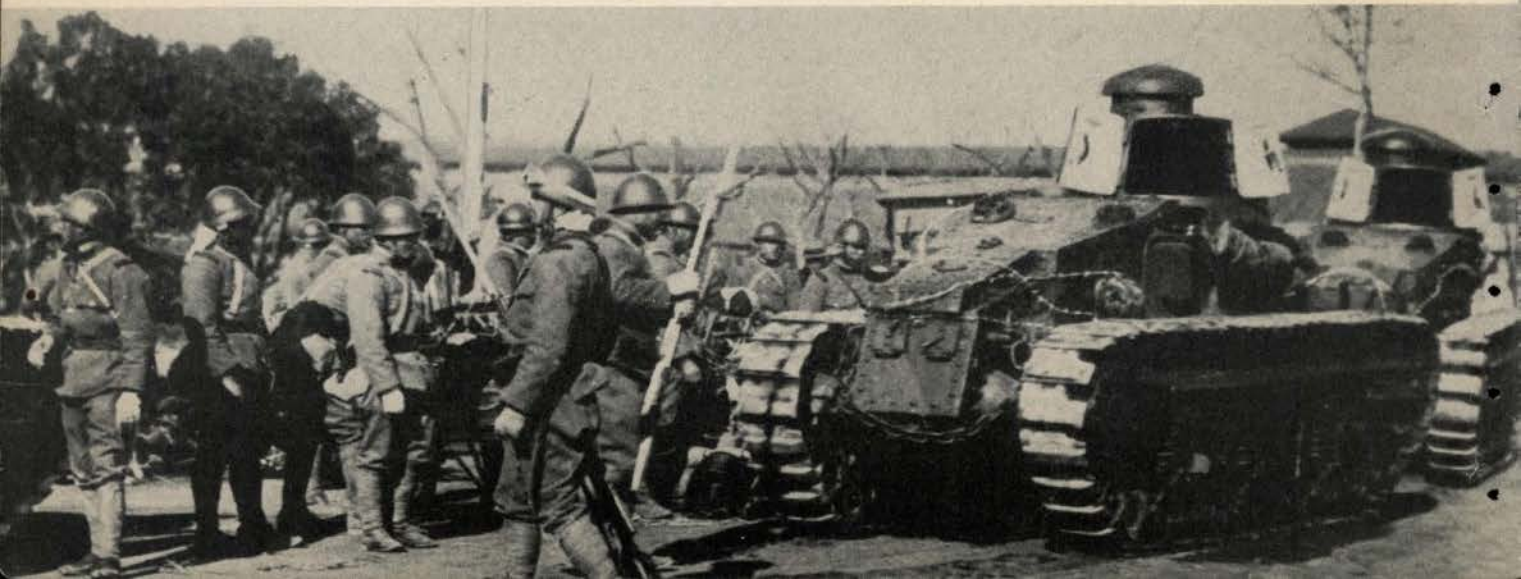
*Tankette M 2598* (1938) has a crew of three men (1 driver and 2 gunners), carries one machine gun in turret and one machine gun in hull fore. Armor: 0.55 inch; Length: 10 feet, 3 inches; Width: 5 feet, 9 inches; Height: 5 feet, 4 inches; Weight: 3 tons; 55 h.p.; Maximum Speed: 33 m.p.h.

*Light Tank M 2593* (1933) has a crew of 3 men; one machine gun in turret, and one machine gun in hull fore. Armor: 0.86 inch; Length: 14 feet, 8 inches; Width: 5 feet, 11 inches; Height: 6 feet; Six cylinder, 85 h.p.; 28 m.p.h. Six bogie wheels, 3 bogies. Fords streams 2 feet, 8 inches deep. Also, experimental amphibious model.

*Light Tank M 2595* (1935). 3 man crew, carries one 47-mm. gun in single turret, two 7.7-mm. machine guns in hull fore. Armor: 0.47 inch; radio communication; Length: 14 feet, 9 inches; Width: 6 feet, 6 inches; Height: 6 feet, 6 inches; Weight: 7.7 tons; 110 h.p.; Maximum Speed: 22 m.p.h.; Fords streams 3.2 feet deep.

*Light Tank M 2599* (1939). 3 man crew, carries one 37-mm. gun and one machine gun. Armor: 0.63 inch; Length: 16 feet, 6 inches; Width: 5 feet, 8 inches; Height: 7 feet, 4 inches; Weight: 7 tons; Four cylinder, Diesel motor; 45 h.p.; Maximum Speed: 12 1/2 m.p.h.

The photo of the light tank below was made in Peiping, China.





(Continued from page 4)

and its coordination with the advance of the tanks; plan for meeting a counterattack by hostile tanks; signal communications between infantry tanks, and artillery. On the night preceding the attack, the tanks move to jump-off positions under cover of the noise of artillery firing and low-flying airplanes. Attack formations aim at obtaining the effect of mass by disposing the tanks in several waves across the front of the infantry unit to which attached. The tanks move forward followed closely by the infantry and supported by the artillery which neutralizes enemy antitank weapons by fire and smoke. Tank objectives are: obstacles blocking the advance of the infantry; the enemy automatic weapons left unneutralized by the artillery; eventually, the hostile artillery and command system. The infantry must stick close to the tanks; if the latter get too far ahead, they may have to turn around and rejoin the infantry.

The foregoing discussion applies particularly to the attack of a position where the need for tanks is especially acute. In the meeting engagement, the tactics of the tanks are in general the same except that preparations and liaison arrangements are not so detailed and the attack moves more rapidly. In a favorable situation, the division commander prior to the main attack may send out all or part of his tanks ahead of the advance guard to upset the hostile deployment and derange the command system of the opposing force. In such a case, the tanks are given a rendezvous point where they assemble and return to the main body in time for use with the principal attack.

*Leading tanks.*—It is doubtful whether the Japanese have had actual experience in the use of leading tanks, although the new Combat Regulations contemplate their use in cases where tanks are available in plentiful numbers. The Japanese first satisfy the requirements for accompanying tanks; those in excess of this requirement are organized into a leading tank detachment under division control. Taking off several minutes ahead of the main attack, they rush deep into the zone of the hostile artillery and command system. They are given a zone of action, a rallying point, and mission type of order to include the subsequent course of action. Artillery support is planned carefully to cover the tanks through the forward area of hostile antitank weapons. Long-range artillery coordinates its fire with the movement of the tanks so as not to interfere with their progress.

*Miscellaneous uses of tanks.*—The following miscellaneous uses of tanks have been noted in the China War:

Tanks break through the defenses at the mouth of a defile, reconnoiter the inner defenses, and return.

Tanks execute local battlefield liaison and reconnaissance missions as well as transport essential supplies in the areas beaten by the Chinese small-arms fire.

Tanks are the main force in a frontal holding attack,

while the remainder of the division envelops a flank.

Tanks block the escape of fugitives through the rear gates of walled towns.

*Defensive.*—On the defense, the division commander usually holds his tanks initially in division reserve under cover from artillery fire and attack from the air. Eventually they are attached to the infantry making the division counterattack. They are particularly valuable in stopping a hostile mechanized force, as the defensive tanks can defeat a superior number of the enemy tanks if the latter have run away from their artillery support or have become dispersed. Occasionally, the defending commander may use his tanks, before the enemy attacks, in a raid on the hostile assembly areas. In all cases, tank actions must be supported by carefully arranged artillery fire to neutralize the hostile antitank guns.

### MECHANIZED UNITS

*Organization.*—As previously indicated, the Japanese have in China provisional mechanized units varying in size and composition, according to the matériel at hand and the mission to be accomplished. In general, these units have a strong nucleus of tanks supported by motorized infantry, engineers, field and antiaircraft artillery, anti-gas, and signal detachments. The whole force is supplied by a truck train formed from line of communication (heitan) supply units. Observation aviation is usually attached.

*Tactics.—Offensive.*—A mechanized force normally receives an offensive mission whereby full advantage can be taken of its high mobility and capacity for independent action. In general, its tactics are about the same as those of a large cavalry force. By secrecy and rapid movement (usually at night) it surprises the enemy force in a terrain suitable for the tanks which form the backbone of the combat strength of the command. The commander, keeping his tanks under central control, masses them for a quick blow in a vital attack direction. The motorized infantry receives any or all of the following missions:

It covers the tanks and facilitates their action.

It holds the ground won by the tanks.

It occasionally takes over a front in the holding attack or makes an attack to create a diversion either by day or night.

The infantry always fights dismounted but stays in its carriers as long as possible. The artillery performs normal support missions with especial attention to enemy antitank guns.

As a mechanized force draws near the enemy, the commander prepares tentative plans to meet varying hypotheses, as the situation is susceptible to sudden changes in this fast-moving type of combat. He activates reconnaissance and security agencies, meanwhile gradually reducing the depth of his dispositions. As the enemy situation clears somewhat, he chooses an assembly area in conformance with his tentative scheme of maneuver. This area is as close to the enemy as is con-





This is a Japanese *Medium Tank M 2594* (1934). It has a 5 man crew, carries one machine gun in turret and one machine gun and one bomb in hull fore. Mortar inside. Ammunition: 6,000 rounds small arms, 120 rounds 37-mm. and 100 bombs. Armor thickness: Upper structure and front, 0.67 inch; Sides, top and rear, 0.43 inch; floor, 6 millimeters. Length: 20 feet, 10 inches (with tail); Width: 8 feet, 4 inches; Height: 8 feet, 6 inches; Weight: 14 tons; motor: 6 cylinder *Mitsubishi* airplane, air cooled; 160 h.p.; Maximum Speed: 28 m.p.h.; Operating distance without refill: 124 miles (210 gallons). Gear speeds and ratios: 8 forward and 2 rear; Suspension type: 9 bogie wheels (4 bogies, 1 independent bogie wheel); Ground clearance: 1 foot, 6 inches; Climbs 46° slopes; Negotiates vertical obstacle 3 feet high; crosses trenches 10 feet, 6 inches wide; fords streams 3 feet deep; used by army and navy landing party. Army model may have only one gun in turret; gun may be 47-mm.

sonant with safety. If there is danger of a sudden collision with the enemy, the commander may traverse the final distance between himself and the enemy by bounds from one terrain line to another.

A bold envelopment or a turning movement is the maneuver best suited to a mechanized force. Such a force will often march at night, assemble in darkness, and attack at dawn. In the assembly area, reconnaissance is made, order is restored, and missions are assigned for the subsequent attack. When the enemy situation is vague, the usual objective is a terrain feature the possession of which is essential to the enemy. In the final deployment troops remain in vehicles until the danger of hostile fire forces them to dismount. When this has occurred, empty vehicles are parked under cover from air and ground observation. The unit reserve is usually infantry but on occasion may include

some tanks. The detailed conduct of the attack follows the tactics of a large cavalry force.

Mechanized units are particularly well adapted to pursuit and exploitation. The objectives assigned to them are those suitable to any pursuit detachment, but their range of action permits a deeper penetration into the hostile areas. It is in this form of action that the Japanese mechanized forces have found their chief employment in the China War.

*Defensive.*—Since the defensive nullifies the mobility of a mechanized force, it is a form of combat to be avoided, but it may be imposed by the situation. In such a case, the commander usually disposes his dismounted infantry in a discontinuous line of strong points with most or all of the tanks held in reserve. The defense is conducted along customary lines with the principal concern of the commander being the en-

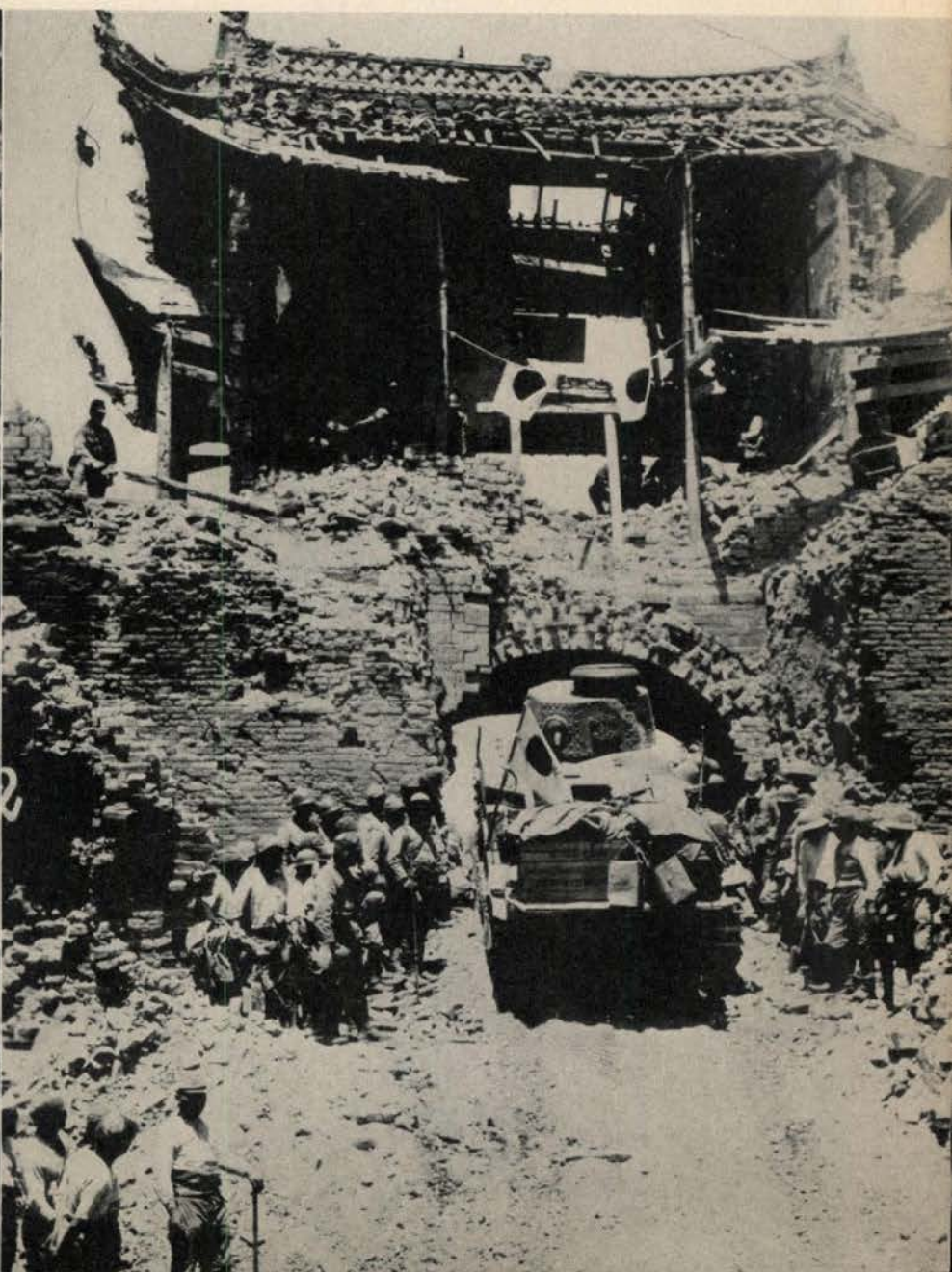


# DIFFICULT IN CHINA

Bridges



City Gates





# Japanese Antitank Defense

The Japanese envisage the inherent disadvantages of enemy tank operations to be—

Natural and artificial obstacles.

Long march columns which are difficult to camouflage.

Adverse weather conditions which may prevail.

Unfavorable working conditions and difficult observation which lower efficiency of crews.

Their antitank instruction stresses taking every advantage of these conditions.

*Passive defense measures.*—Concealment, camouflage, and calm nerves are of utmost importance. Reconnaissance and warning nets are considered essential.

*Active measures.*—These include:

Action by antitank guns, accompanying guns, and mortars.

Bullet splash from machine guns and rifles at a short range (at least one section firing at each tank).

Mines and "tank fighters." The latter comprise men with special training and equipment for direct assault on tanks.

*Detailed method of attacking a tank.*—It is desirable to choose ground where tanks must travel slowly and so as not to interfere with the action of antitank guns.

Each rifle company (sometimes machine-gun and heavy weapon companies organize smaller detachments) includes a section of special "tank fighters" which are especially equipped for action against tanks. Each man

is armed with an antitank mine, a bomb, and a smoke hand grenade.

Three ways of attacking tanks are—

The tank fighter crawls toward the tank under cover, until he is within the dead space of the tank weapons. Next, he throws the mine, which is attached to a long string, about 15 feet in front of the tank and, by means of the string, pulls it directly under the tank.

Several pairs of tank fighters move forward under cover and place a number of mines in front of the tank in such a manner that the tank must drive over one of them.

A number of mines are fastened, 1 foot apart, to a 150-foot line. Two men conceal themselves with this chain of mines and draw the mines across the path of the tank as it approaches.

The tank fighter is also taught to attack the tank by jumping on top of the tank, usually from the rear, and damaging the guns or rotating mechanism of the turret with picks. The pistol may be used to fire on the crew through openings in the tank. Another method is to blind the tank crew by throwing a shelter-half over the turret or to smoke it out. Naturally, all these forms of assault are feasible only if the friendly infantry can neutralize the hostile infantry accompanying the tanks. Tanks have been delayed and stopped, finally, by driving 3-inch wooden poles or 1 to 1½-inch rods between the spokes of the tank wheels.







Tank congestion at Chinese wall evidence of improper tank employment.



Traffic congestion, result of narrow, winding, unimproved, Chinese roads and poor Japanese staff work.





Light armored car in Shanghai.



Heavy armored car model 1937.





This heavy armored car is adapted to operate also on Chinese railroads. It was used in the Japanese drive in Central China where guerrillas were active. It assisted in armored train operations and at times served as a prime mover for railway supply cars.

★ ★ ★

*Tractors:* In addition to locally made tractors, the Japanese have several hundred foreign, and more especially American-made Holt and Fordson tractors, principally for use in drawing the 105-mm. gun.

*Trucks:* The Japanese Army possesses a few thousand foreign trucks. Some of the locally made trucks are: Chiyoda, Sumida, Toyoda, Nissan, Isuzu, Dowa (made in Mukden), and the Hitachi Diesel. The first three are patterned after the Wolseley (British) model. Some of these are 6-wheel trucks.





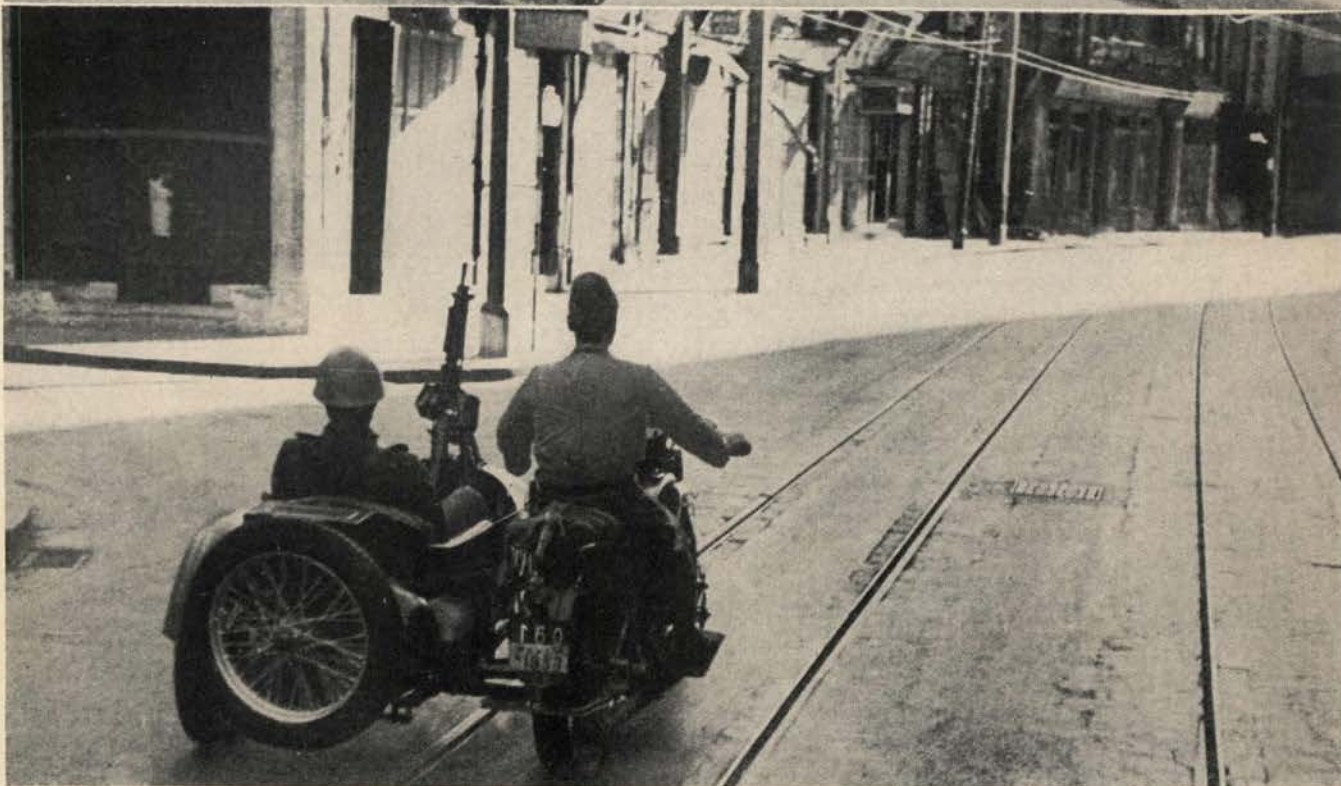
Improvisation: Here we see an American sedan on which a machine-gun turret has been mounted.

## AMERICAN EQUIPMENT IS NOW BEING THROWN BACK AT US

In China, until now, the Japanese have feared guerrilla operations more than Chinese air attacks. Truck trains therefore are well guarded, and the columns move well closed for mutual protection.







*Top: Japanese landing party in China halts for orientation.*

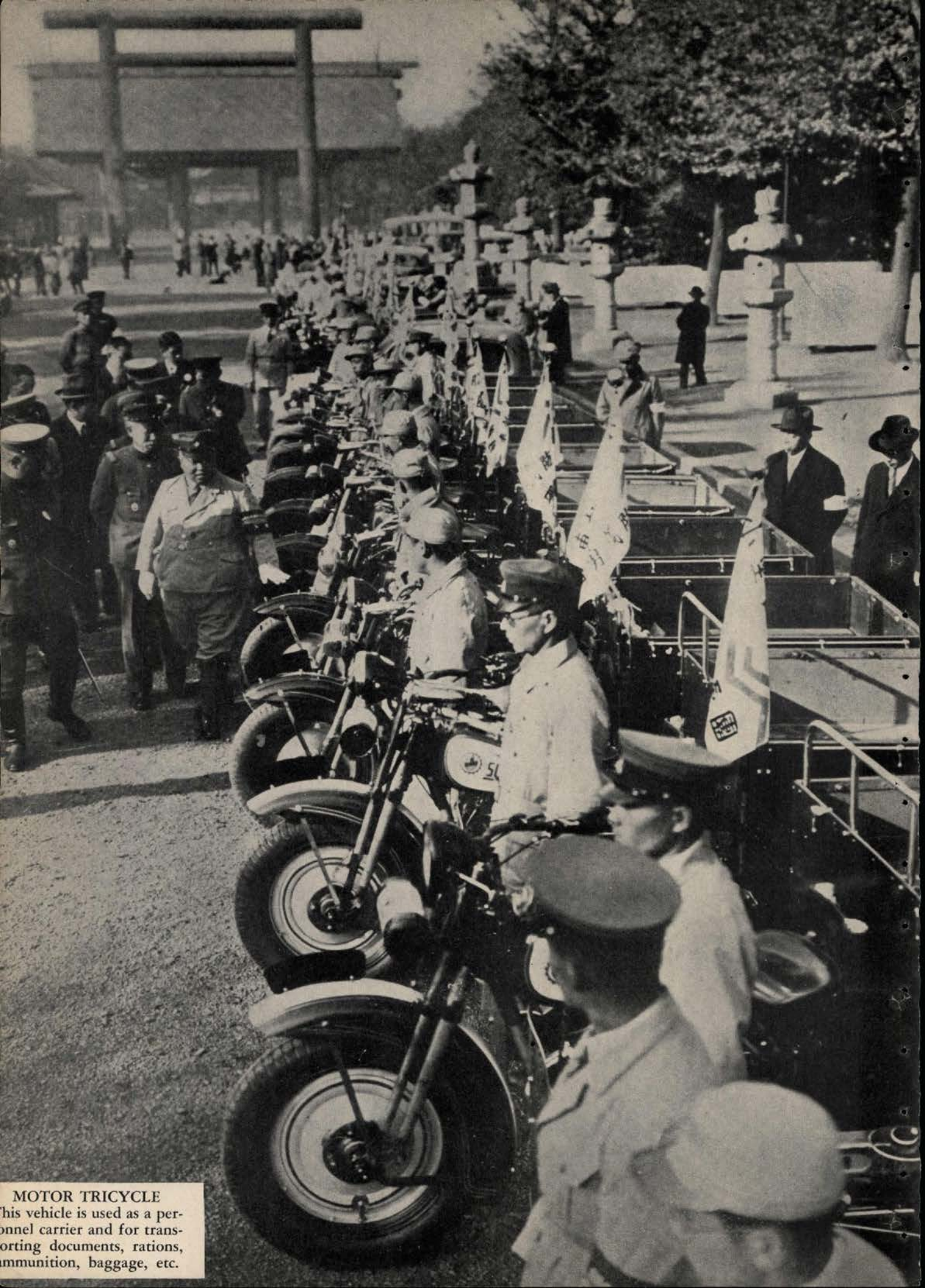
*Bottom: The Shanghai Patrol.*

★ ★ ★

The Harley-Davidson (Japanese made) and the Kurogani are the types of motorcycles most used. The latter is a heavy, powerful machine but is poorly built.

Bicycles are extremely common, both in and out of the service.





**MOTOR TRICYCLE**  
This vehicle is used as a personnel carrier and for transporting documents, rations, ammunition, baggage, etc.



# Japanese Military Terms and Characters

## MILITARY TERMS

The following is a list of military terms and their Japanese equivalents which may be useful to unit intelligence officers:

Military term	Japanese equivalent
Army	Rikugun.
General staff	Sanbō hombu.
Chief of general staff	Sanbō sōchō.
Navy	Kaigun.
Navy department	Kaigun shō.
Grade	Kaikyū.
General officer	Shōkan.
General	Taishō.
Lieutenant general	Chūjō.
Major general	Shōshō.
Field officer	Sakan.
Colonel	Taisa.
Lieutenant colonel	Chūsa.
Major	Shōsa.
Company officer	Ikan.
Captain	Tai-i.
First lieutenant	Chū-i.
Second Lieutenant	Shō-i.
Noncommissioned officer	Kashikan.
Warrant officer or special duty sergeant major	Tokumu sōchō.
Sergeant major	Sōchō.
Sergeant	Gunsō.
Corporal	Gochō.
Soldier	Hei, heitai.
Superior private	Itō hei.
First class private	Itō hei.
Second class private	Nitō hei.
Grade	Kaikyū.
Army (unit)	Gun.
Army headquarters	Gun shireibu.
Army commander	Gun shireikan.
Division	Shidan.
Division headquarters	Shidan shireibu.
Division major general attached to	Shidan shireibuzuki shosho.
Division commander	Shidan chō (chūjō).
Division artillery	Shidan hōhei.
Division cavalry	Shidan kihei.
2 brigades of infantry	Hohei niko ryodan.
1 regiment of cavalry	Kihei ikko rentai.
1 regiment of field or mountain artillery	Yahōhei, moshiku wa sanpōhei, ikko rentai.

Military term	Japanese equivalent
1 battalion of engineers	Kōhei ikko daitai.
1 battalion of transport troops	Shichōhei ikko daitai.
Brigade	Ryodan.
Reinforced brigade	Konsei ryodan.
Composite brigade	Shūsei ryodan.
Brigade cavalry	Ryodan kihei.
Infantry brigade	Hohei ryodan.
Cavalry brigade	Kihei ryodan.
Heavy field artillery brigade	Yasen jū hōhei ryodan.
(There is no light artillery brigade organization.)	
Regiment	Rentai.
Regiment headquarters	Rentai honbu (not shireibu).
Regiment commander	Rentaichō.
Regiment adjutant	Rentai fukukan (fukkan).
Battalion	Daitai.
Battalion headquarters	Daitai honbu.
Battalion commander	Daitaichō.
Battalion adjutant	Daitai fukukan.
Company, troop, battery	Chūtai.
Company (troop, battery) headquarters	Chūtai jimushitsu (not hombu).
Platoon	Chūtaichō.
Company (troop, battery) commander	Shōtai.
Platoon commander	Shōtaichō.
Squad	Buntai.
Squad commander	Buntaichō.
Detachment	Butai.
Arms or services	Heika.
Arms	Honka.
Infantry	Hohei (aka) (really hi) (red).
Cavalry	Kihei (midori) (green).
Artillery	Hōhei (kiro) (yellow).
Light field	Ya hō hei.
Mountain	Sanpō hei.
Heavy field	Yasen jūhōhei.
Antiaircraft	Kōsha hōhei.
Heavy	Jūhōhei.
Engineers	Kōhei.
Transport corps	Shichō hei.
Air	Kōkū hei (sorairo) (really usu konjō) (sky blue).
Military police	Kenpei (kuro) (black).
Staff services	Kakubu.
Medical	Eiseibu (fuka midori) (dark green).
Veterinary	Jū-ibu (murasaki) (purple).
Intendance	Keiribu (gincha) (silver tea).

## NAVAL TERMS

Auxiliary gunboat	Tokusetsu hōkan.	Land airplane	Rikujō hikōki.
Battleship	Senkan.	Seaplane	Suijō hikōki.
Battle cruiser	Jun-yō senkan.	Gunboat	Hōkan.
Cruiser	Jun-yōkan.	Combined fleet	Rengō kantai.
Coast defense vessel	Kaibōkan.	Gunboat unit	Hōkantai.
Combined destroyer group	Kuchiku rentai.	Naval gun	Kaigunhō.
Destroyer	Kuchikukan.	River gunboat	Kayō hōkan.
Division	Shōtai.	Submarine	Sensuikan.
Destroyer unit	Kuchikutai.	Squadron; flotilla	Sentai.
Mother ship	Bokan.	Destroyer squadron	Suirai sentai.
Aircraft tender or mother ship	Kōkū bokan.	Submarine unit	Sensuitai.
Destroyer mother ship	Suirai bokan.	Submarine squadron	Sensui sentai.
Mine sweeper mother ship	Sōkai bokan.	Salvage ship	Kyūnansen.
Airplane; flying machine	Hikōki.	Torpedo boat	Suiraitai.
Fleet	Kantai.	Minesweeper	Sōkaitai (sen).



## IMPORTANT MILITARY CHARACTERS

## Arms, services, and units.

Infantry Hohei	Cavalry Kihei	Artillery Hōhei	<small>The first character alone means army (gun); with second character, corps (gundan).</small>	Division Shidan	Brigade Ryodan
步兵	騎兵	砲兵	軍團	師團	旅團

Regiment Rentai	Battalion Daitai	Company (troop battery) Chūtai	Platoon Shōtai	Engineer Kōhei
聯隊	大隊	中隊	小隊	工兵

近衛	<small>Konoe, the Imperial guards; used for units of the Imperial Guards Division.</small>	航空兵	<small>Kōkūhei, the air service (a new word).</small>
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## Numbers.

One	Two	Three	Four	Five	Six
一	二	三	四	五	六
Seven	Eight	Nine	Ten	Hundred	Thousand
七	八	九	十	百	千

○ Zero, used generally where our zero is used, though the character for ten is sometimes used.

*Grades of officers.*—Characters showing officers' grades are given as follows:

## Company Officers.

Captain Taii	First lieutenant Chūi	Second lieutenant Shōi
大尉	中尉	少尉

## Field Officers.

Colonel Taisha	Lieutenant colonel Chūsa	Major Shōsha
大佐	中佐	少佐

## General Officers.

General Taishō	Lieutenant general Chūshō (or chūjō)	Major general Shōshō
大將	中將	少將

## CHARACTERS ON IDENTIFICATION TAGS

*Enlisted man.*—Identification tag of an enlisted man. Reading from top to bottom the first character gives the arm or service, followed by regimental number, a small dash, and ending with the serial number of the man in his regiment. The following reads, "Infantry 56 (regulation), No. 147."



*Officer.*—The following is an officer's identification tag which gives in order from top to bottom, arm or service, grade, and name. This tag reads, "Infantry, first lieutenant, Yamamoto."



NOTE.—In all enumerations the Japanese habitually use the order MP, Inf., Cav., Arty., Engrs., Air Service, Transport, abbreviated sometimes to Ken, Ho, Ki, Hō Kō, Kōkū, Schichō.

*Reading identification tags.*—Japanese is read from top to bottom and from right to left. The characters here used are Chinese characters adapted by the Japanese. One, two, three, or more characters constitute a word. The dash on the enlisted man's tag separates the regiment number from the man's serial number in the regiment. The arm of service is frequently abbreviated



and the first character only used. This is true on the enlisted man's tag. In case of engineers, "battalion" is substituted for "regiment." A detailed explanation of the reading of tags follows:

### Enlisted Men.

騎	One character here shown—ki for kihei, cavalry.
二三	One or more characters for number of regiment (in this case 23).
・	Dash separating regimental number from serial number of man in regiment.
四一九	Serial number of man in regiment. One or more characters (in this case 419).

### Officers.

工兵大尉田中	Generally two characters for arm of service (here engineer).
	Two characters for rank (here captain).
	One, two, three, or four characters for name of officer (here Tanaka).

*Examples.*—The following are examples of the translation of identification tags:

砲  
十八  
五四  
No. 54.

騎  
兵少尉  
川口  
Cavalry.  
Second lieutenant.  
Kawaguchi.

工  
九  
六〇  
No. 60.

歩  
兵少將  
原  
Infantry.  
Major general.  
Hara.

騎  
兵大佐  
内田  
Cavalry.  
Colonel.  
Uchida.

工  
兵中佐  
松野  
尾  
Engineer.  
Lieutenant Colonel.  
Matsunō.

歩  
七六  
四四  
三  
Infantry.  
76th Regiment.  
No. 442.

砲  
十二  
一八七  
No. 187.

工  
兵大尉  
中川  
Engineer.  
Captain.  
Nakami-gawa.

騎  
八  
六四  
三  
Cavalry.  
8th Regiment.  
No. 642.

歩  
四二二  
五二  
Infantry.  
141st Regiment.  
No. 1,251.

砲  
十一  
九  
Artillery.  
10th Regiment.  
No. 9.

騎  
兵少佐  
谷  
Cavalry.  
Major.  
Tani.

歩  
九一  
七六  
二  
Infantry.  
91st Regiment.  
No. 761.

歩  
兵中尉  
本西  
Infantry.  
First Lieutenant.  
Motonishi.

歩  
五五  
〇三  
Infantry.  
52nd Regiment.  
No. 503.

READ THE IDENTIFICATION TAGS. IT IS NOT DIFFICULT.  
THE NUMERALS ARE EASY TO REMEMBER.



# Japanese Cavalry

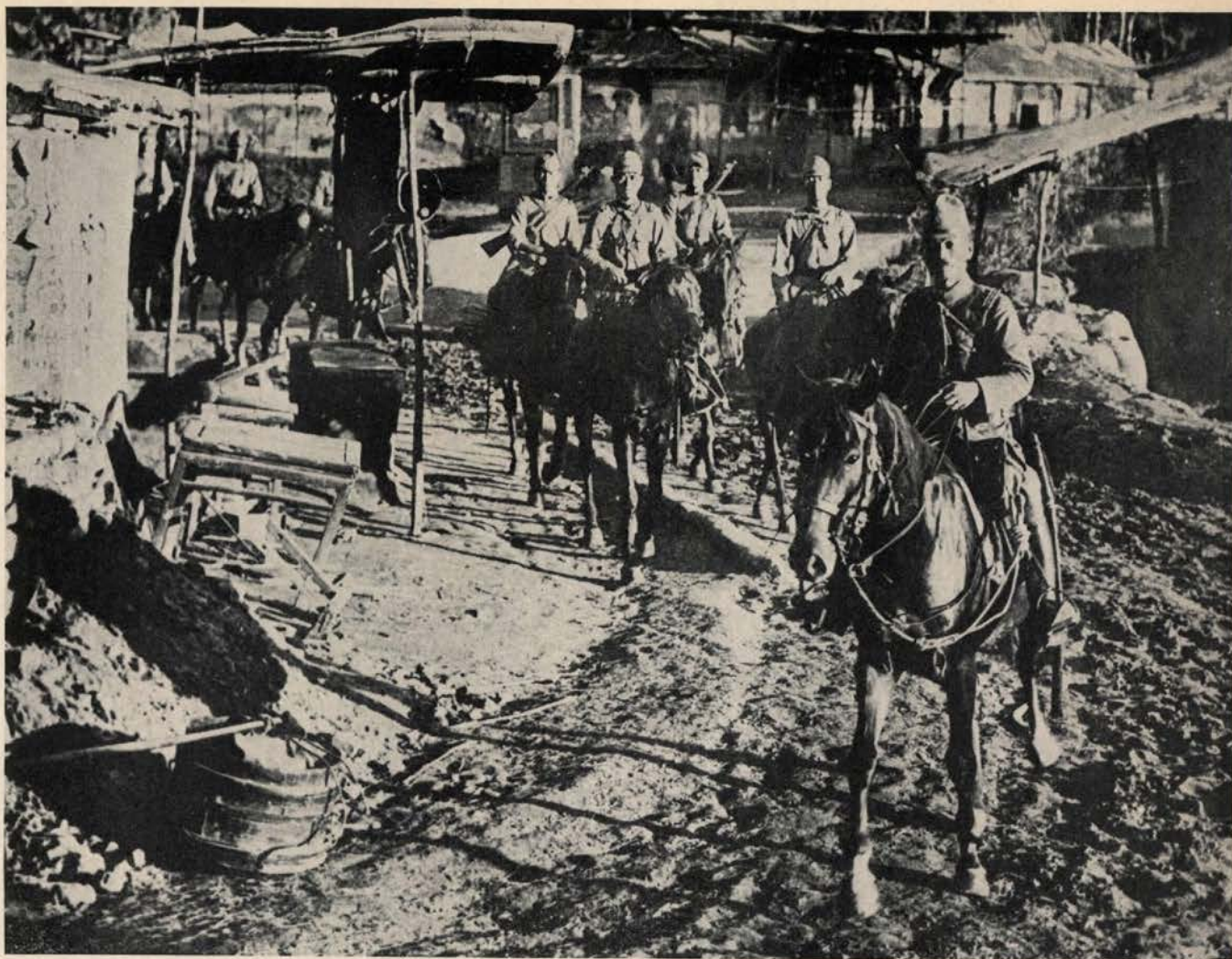
For detailed discussion of JAPANESE CAVALRY see the January-February 1942 issue of The Cavalry Journal.

The Japanese have made effective use of their Cavalry in China in areas not suited to mechanized employment.

Japanese cavalry bivouac; prior to advancing into China's rugged mountain vastness.







Japanese cavalry penetrated areas in  
China prohibitive to motor vehicles.

★ ★ ★

Below, it can be noted that the cavalry tank support cannot follow the  
cavalry across the water-covered fields. The soggy ground in the low-  
lands nullified much of the effectiveness of formidable combat vehicles.







China's "GOOD EARTH" does her bit in mud and dust to help retard the ruthless invaders.





Chinese roads constantly present grave problems for Japanese Engineers and supply echelons.





A Chinese Dispatch Rider. . . and "more power to him!"





The Japanese Infantry in China exploit the use of horses in every possible instance. Illustrated above is the *Infantry Battalion Gun, Model 92 (Kyunishiki hobeibo)*.

# INFANTRY BATTALION GUN

It is a 70-mm. rifled gun capable of delivering fire from range of 200 to 2,800 yards. Its characteristics are:

## Weight:

Gun .....	101 pounds.
Mount .....	77 pounds.
Mounted gun and caisson .....	420 pounds.
Length of bore .....	30 inches, approximately.
Over-all length .....	27 inches.
Mounted over-all length ..	5 feet, approximately.
Width of wheel tread ....	27 inches approximately.
Effective range .....	300 to 1,500 yards.
Traverse .....	45°
Elevation .....	—10° to +50°.
Danger area of burst .....	40 yards, approximately.

**Breechblock.**—Two threaded segments, rotating and opening downward.

**Carriage.**—(a) *Recoil mechanism.*—Length of recoil, about 4 inches.

**Traversing and elevating mechanism.**—Traversing handwheel on the left of the barrel and elevating handwheel on the right. Both handwheels are operated by the gunner, who lays first for direction, then for elevation. Elevating mechanism is similar to that of our old pack howitzer. Traverse is about a heavy pintle mounted on the axle.

**Shield.**—Armor plate about one-eighth of an inch thick.

**Trail.**—Split 5 feet long, welded except where riveted to spade.



*Panoramic sight (same as field artillery).*—Mounted on the sight bracket on the left side of the piece. The sight bracket includes a range drum with four divisions marked in mils, an elevating bubble, and a cross bubble for correcting for difference in levels of wheels.

*Ammunition.*—Semifixed with brass case. High explosive shrapnel and smoke shells are used. The range is extended by increasing the powder charge. At maximum range the time of flight for the different powder charges is—

Charge No. 1.....	30 seconds (3,075 yards).
Charge No. 2.....	25 seconds (1,975 yards).
Charge No. 3.....	20 seconds (1,300 yards).
Charge No. 4.....	15 seconds ( 985 yards).

Minimum permissible ranges with instantaneous fuzes employing low-angle fire varies with the powder charge, elevation of gun, and target. With ground level ranges are—

Charge No. 1.....	1,100 yards.
Charge No. 2.....	660 yards.

Charge No. 3.....	225 yards.
Charge No. 4.....	110 yards.

Minimum ranges with delayed action fuzes ground level are—

Charge No. 1.....	660 yards.
Charge No. 2.....	330 yards.
Charge No. 3.....	330 yards.
Charge No. 4.....	330 yards.

Rate of fire: 10 rounds per minute, 5 rounds per box.

*Other vehicles.—Limber.*—This is a simple box mounted on an axle. Shafts are solidly attached to limber chest and to breast collar of the draft horse. Two boxes of ammunition, sights, and accessories are carried in the limber chest.

*Caisson.*—Similar in construction to the limber and contains three boxes of ammunition.

*Transport.*—The gun and ammunition caisson in tandem are pulled by a single horse.

## SIGNAL COMMUNICATIONS and Equipment

Fishing boats and lights are known to have aided the Japanese in some of their landing operations in the Philippines. However, the complete extent to which fifth columnists have been used is not known.

Close liaison between Japanese air forces and ground troops is being maintained by means of portable radios. These are equipped with earphones, and are carried on the chest by commanding officers of companies.

With air superiority, the Japanese are able to observe the positions of the Allied front lines and troop dispositions and movements. This information is then relayed to the Japanese commanders, who, in many instances, are told when to move forward and when to halt.

The Japanese infantry, armed with grenades and automatic weapons, have obtained great mobility by leaving behind all other equipment not absolutely necessary. Their attacks usually are made at daybreak.

Company commanders move up their companies by squads, and consolidate them with advance security detachments prior to the attack.

In Malaya, heavy motor vehicles have been used sparingly, for in the low, soggy terrain they tended to become canalized on any road that was not hard-surfaced. The Japanese have equipped and trained their soldiers in Malaya to travel for days through jungles with all their supplies either in their packs or on small transport vehicles.

Three types of machine guns were reported in use by the Japanese in the Malayan campaign—a Thompson-type submachine gun; a type "96" light machine gun; and a belt-fed medium machine gun. The latter, mounted on a wheeled carriage, is like the British Vickers gun except that the Japanese weapon has a larger water jacket.

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## THE JAPS FULLY UTILIZE ALL CAPTURED EQUIPMENT AND ARE TRAINED IN THE USE OF ENEMY WEAPONS

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A JAPANESE MISJUDGMENT  
Our sympathy is extended ONLY to the horses - - - .



# Landing Operations

Japanese landing operations have been organized as follows:

*Preparation.*—Landing sites have been carefully reconnoitered beforehand, either by aircraft or by the work of secret agents in peace. Troops earmarked for landing operations have been assiduously practiced beforehand.

*Rendezvous of transports.*—Transports and motor landing craft carriers rendezvous at some convenient anchorage the night before the landing. Where no anchorage is available the transports have arrived off the landing point about the middle of the night.

*Operation of landing.*—Landings usually take place just before dawn on a day when it is high tide just after dawn. Periods of rain or stormy weather are chosen when possible so as to facilitate surprise. Men are transferred from transports and motor landing craft carriers to landing craft just off the site of landing. The initial force usually consists of infantry, some field artillery, engineers, and *light tanks*, all of which are embarked in motor landing crafts. These make for the shore at full speed, and if in formation all craft shut off their engines and drop their stern anchors together when a short distance off the beach. For the remainder of the distance the boats are eased in until grounded by means of the hand brake on the stern anchor cable. The boats normally ground at about 50-yard intervals. If the operation warrants the boats' leaving immediately, the stern anchors are weighed by hand or power and the boats make off at full speed. Military patrol craft armed with pompoms and machine guns give close support to the landings while air and naval support is provided as required. Once a beach head is established the main forces landed proceed inland as fast as possible.

*Air and naval coöperation.*—The Japanese have had complete air and naval superiority in all their landing operations on the China and Philippine coast. Sea communications have thus always been secured and all landings have had overwhelming support from sea and air. On one occasion Japanese destroyers assisted the land forces by gun fire. In order to ensure surprise, naval fire may be withheld until after the landing of the first flight. Owing to the complete air superiority the Japanese appear to make little or no provision for antiaircraft protection. This fire took the following forms:

Preliminary bombardment of enemy positions at a range of about 1,300 yards.

"Howitzer" fire on special areas. This was achieved by putting extreme elevation on the ships' guns and using a small charge.

*Forces used.*—Almost all Japanese landings were made with a force of two divisions (40,000 men).

These appear to have landed with normal equipment, which usually includes light tanks (3 tons), 10.5-cm. field howitzers, 75-mm. field guns, etc.

*Conclusions.*—The following factors were instrumental in giving the Japanese the successes they achieved in China:

Complete security of sea communications.

Overwhelming naval support.

Overwhelming air support.

Inefficiency of enemy watching organization.

Lack of enemy real opposition on landing.

Complete lack of enemy action at sea.

Enemy lack of artillery, which made the establishment of a beach head of little depth sufficient to cover the main landing.

Japanese use of aircraft for supply dropping and bombing which lessened the administrative difficulties of landing transport and artillery in the early stages of the operations.

Policy of Japanese, owing to lack of opposition, to bring their transports close to the shore before transferring men into landing craft.

Care taken to achieve surprise by choosing difficult landing sites and poor weather conditions.

## JAP OFFICERS

A typical officer of the Japanese armed forces is likely to be younger than his American counterpart and the product of a much narrower education. He is likely to be as much or more of a specialist than the American, but is the product of a school which stresses adherence to plan rather than individual initiative.

The greater physical stamina the Japanese may bring to a campaign by reason of his relative youth is offset, particularly in higher ranks, most students believe, by the broader training and experience of the American. This is especially true of naval officers.

Japanese officers, as a group, probably work harder than either American or British and take less recreation. They tend to learn by rote, memorizing procedure originated by others.

American type individualism is officially discouraged. The Japanese like to act as a group, upon group judgment. The army copies Germany. The navy always has studied British naval practice.

The system tends to produce an officer utterly proficient, scrupulous and reliable in the performance of duties. In courage the Japanese officer probably is surpassed by none. He is at his best in executing plans carefully made in advance.

But let unexpected developments particularly reverses, upset pre-arranged plans, students assert, and the Japanese officer is likely to go to pieces.





*Plate, courtesy of The Infantry Journal*

The odd-looking weapon of this naval landing party is the 1922 Nambu light machine gun. Air-cooled and gas-operated, it weighs  $22\frac{1}{2}$  pounds and fires 6.5-mm. rifle ammunition fed by ordinary five-round straight Mauser-type clips. The high-comb buttstock makes it look something like our tommygun and the thick cooling rings on the barrel heighten its odd appearance. Bipod legs fastened near the muzzle are folded down.





# THEY RIDE AGAIN

## New Role for Australia's Renowned Light Horse

*By David W. Bailey\**

TO the Japanese advance through Malaya to Java, Australia has reacted sharply with maximum mobilization of weapons and resources of resistance and war, basing her defense upon the strategy of converting a beleaguered continent into an Allied Pacific counter-offensive springboard. Two thousand miles deep and 2,500 miles wide, that Continent has vast space in which to deploy the strength it will oppose to any invasion. But since at many points on the 12,000 miles coastline an enemy may land his forces, mobility exceeding any effort of that kind in her history must characterize her military defense. It may be assumed therefore that in her present mobilization she will bring into play not only every plane, tank, armored car, and gun carrier her factories can produce, but also every horse. Mounted infantry is still the potentially biggest mobile force in Australia. In event of invasion, a new type of guerrilla warfare with mounted troops is almost certain to develop as a natural answer to the new condition in which Australia finds herself, just as the Australian Light Horse gave to Egyptian Sinaian and Palestine campaigns in the war of 1914-18 a mobile striking power which best answered the requirements of that struggle with the Germans and Turks.

The classic example of mobility and striking power on land—coördinated or uncoördinated with air forces—until the present war, remained as the record of the Australian Light Horse, a formation peculiarly Anti-

podean. Only the armored divisions in the Polish, French, Greek, Cretan, Libyan, and now Russian, theaters of war, have surpassed its overpowering sweep upon all manner of obstacles from trenches to walled redoubts. Twenty-four hour assaults, and single dashing charges through miles-long screens of shrapnel and machine gun fire in Palestine ending with hand to hand bayoneting on the ground served more than once to put an enemy to rout, an enemy who has as reckless horsemen, as good artillery, and the arranged or adventitious aid of seemingly indifferent nomads.

Since in Australia's wideflung pastoral and agricultural life the horse remains such a factor, and the stockrider as essential as ever, it is obvious that the disturbance or threat to this economic life by any enemy thrust will call for the maximum use of the horse as a defensive and counteroffensive means. Therefore the Light Horse Brigades, never active in their homeland at more than 6,600, though sent in expeditions abroad at three times that strength for mainline and reinforcement, will probably this year and next outnumber the grand total of all previous A.L.H. Imperial expeditions and home establishments.

Like other fighting nations, Australia has mechanized her fighting forces to a degree far exceeding that of the mobility she had achieved through cavalry in earlier wars. Development of mechanization has left little room for the employment of mounted troops in the nine theaters of land action in which she has engaged in this war—Britain, Libya, Greece, Crete, Syria, Iraq,

\*Director, Australian News and Information Bureau, New York.



Malaya, Singapore, New Guinea, Java. Throughout Australia there has spread the desire for a "people's Army," and the Government has set up a Volunteer Defense Corps in answer to this. Already males of 18 to 35 have been called to the colors in the reorganized home defense Militia. The new Home Defense plan in its Militia and its Volunteer Defense organization find ready for use everywhere efficient bodies of horsemen. They can be relied on to function as a natural defense in the unusual opportunity for defense in depth which the continent presents.

At the outbreak of this war, the Light Horse was at a strength of about 6,000, just as at the outbreak of the war of 1914-18. In 1914 there were six Brigades, each consisting of three regiments, one battery of Field Artillery, one signal troop, one L. H. Brigade train, and one L. H. Field Ambulance. The Brigades were in peacetime distributed: One with three regiments in Queensland—the State with the longest Pacific and Northern coastline; two Brigades with a total of six regiments in New South Wales, the State with the second longest Pacific coastline (800 miles), and the foundation state for horse breeding; two brigades (four regiments) in Victoria on the southern extremity of the continent; one Brigade (two regiments) in South Australia; and one Brigade (one regiment) in Western Australia. Northern Territory (Darwin) a Federally-controlled area of 500,000 square miles with many cattle but few people, and the first place to get the shock of Japanese air attack, had no Light Horse establishment before this war. Such establishments, in such a vast continent, could of course only be regarded as nuclei, if, as we must now assume, war comes to the country in full force. Organization consisted of Regiment—600—under a Colonel; 3 Squadrons to a Regiment, each under a Major; 4 Troops (50 each) to a Squadron; 4 Sections to a troop.

In Palestine, the greatest single formation of A.L.H.

at any one time was 12,000 in a Desert Column or Division of 19,000. In that Division were also New Zealand Mounted Rifles, British Yeomanry and French Cavalry. In the total mainline mounteds and reinforcements were upwards of 40,000 horses. The biggest strength then involved, will in Australia's new emergency present little difficulty to that country. She could raise that force of horsemen overnight—indeed has almost certainly done so—most of them requiring little other than military tactical training. The horses are saddled. The necessary men, most of them accustomed to the rifle are standing by. They may be relied on to hold now, better than they did any oasis in Palestine or Egypt, the lands that made them a particular kind of horse and horseman.

It was this matching of man and beast, this already determined relationship, that made the *Light Horse* so effective in war. Their life long background explains just what surprised an old-line General as he viewed the A.L.H. soon after their arrival in Egypt in the first days of war. These forces, brought to Egypt as a training base, seemed already trained. Years in the open country, stockriding, sheep droving, hunting in bushland and backblocks that gave the horse his surefootness, his leashed reliability, stamina and dash, had developed also in the horseman's great hardihood, keenness, initiative and dependability. These qualities together yielded the perfected individualized mobile unit for any emergency in peace or striking purpose in war. Not surprising either, that when the A.L.H. arrived in Egypt, its personnel regarded with astonishment exceeding the old-line General's British and other Dominion cavalry units that left important details unmounted. Australians could not understand this. They had come to war with a complex of complete mobility in their own units, regarding any unmounted attached or auxiliary unit as the impediment it was. It was Australian persistence that induced British officers

All over Australia the original "Anzacs" of Gallipoli, their sons and relatives are in training so that they may be able to defend their country. In this picture the Governor-General Lord Gowrie (third from left), is inspecting a parade of 2,000 Light Horsemen, whose slouch, omuplumed hats create a suggestion of devil-may-careddness.











Anzacs on Parade.

to abandon the practice of letting all but officer and warrant officer personnel in ambulance units walk, and to put them on horse instead.

The horse used in the A.L.H. formation is mostly a light lean type. He would be rejected for Cavalry. A century ago, Arab, English and Welsh breeds of horse were introduced to Australia. Their progeny reached its most specialized type in New South Wales. A hardy, leanshanked, medium height animal, known as the "Waler" still heavy enough for cavalry use, was evolved and figured in a military export trade to India as high as 20,000 a year. When the present war came, this trade was down to a few thousands a year because the type available ceased to be a cavalry horse. Three years after the Australian Light Horse had achieved its world renown in Palestine as the greatest single mounted force of modern times, General Sir Harry Chauvel who commanded the Desert Mounted Division, himself a most experienced horseman and mounted Police Trooper from Queensland, reported to the Australian Government that less than three per cent of Australian horses were up to cavalry or artillery standard. So much had the climate and pastoral demands modified the breed. These modifications, however, were the saving grace of the Waler as a horse for mounted infantry. This trend in horseflesh contributed to the renown of the A.L.H.

Australian Light Horse history began with the Boer War of 1899-1901 when it participated as the New South Wales Lancers. Twenty-two of the 24 modern peacetime regiments of the A.L.H. boast of descent from the Boer campaign though few of the veterans of 40 years ago remained to fight in Palestine.

The Light Horseman was then and still is a volunteer. Like the rest of the 700,000 men Australia has recruited for foreign service in two world wars, and the

nearly 500,000 she had actually sent to those wars, he is part of the living eagerness of that people. He comes already a horseman. As a military specialized functionary he is almost unscriptable. The foundation of his military life is already in his makeup. Men who volunteered for the A.L.H. usually came with their own horses. In the peacetime Militia service in which they did 12 to 18 days a year in military camp, they were allowed about \$1.00 a day for upkeep of their own horses. Each man must be the complete companion and master of his horse, feeding, grooming him, tending him from picket line to outpost duty. This same personal responsibility marks the A.L.H. in war. It is part of the idea of mobility. In wartime, Government pays a volunteer about \$80.00 for his mount.

Horsemen who may be called upon to serve in Home Defense today and for whom there is no horse regimental opportunity must serve of course as regular infantry or in some other branch of the army in which there may be need for him. The Light horseman is a complete infantryman, but mounted. As mounted infantry, the A.L.H. personnel were dismounted in Egypt and sent into the assault upon Gallipoli. They fought through that campaign, and 2,500 of the first 5,000 thus employed in Gallipoli survived, returned to Egypt, rejoined their horses and were reinforced by thousands of others. First important actions in which the A.L.H. engaged express the eagerness for offensive strategy that marks so much of the Australians' present-day mobilization against Japan. General Chauvel in 1916 took charge of the reorganization of this force and step by step, raid by raid, broke up the challenge in Sinai.

Until then the British defense rested upon a passive protective system devised by Lord Kitchener many years before. The dashing Light Horse soon overcame



the menace to the Canal, and this campaign gave it its first real taste of the dangers ahead. In the spring of 1916 18,000 Turks under Von Kressenstein were defeated by the Light Horse aided by the New Zealand Mounted Rifles, which in at the end of a day's resistance destroyed half the Turkish force in a counterattack. In December the Anzac Mounteds took a Turkish position by storm in one day at Magdhaba. The same force repeated this exploit on January 9, 1917, at Rafa. In each case a stout resistance was overcome only at the last moment and by a general charge. In March it outflanked the Turks at Gaza and entered the town capturing a divisional commander, only to be ordered to retire because south of Gaza the main force of attacking infantry was held up. Then the Turks built a so-called impregnable 20-mile front from Gaza to Beersheba with a defending force of 200,000. General Allenby, Commander-in-Chief of the British forces prepared the attack. In an all-day storm of the Beersheba Defenses General Chauvel's Light Horse Brigades, which had spent three days to detour through the desert, launched a charge over two miles of terrain

through machine-gun and shrapnel fire against unconnoitered trenches. They galloped straight at a double line of trenches, took them in their stride, dismounted and fought the defending infantry with bayonet. Turkish infantry, gunners and transport men were put to flight. The XX and XXI Army Corps pressed home the attack on the position. Anzac mounteds assisted by the air corps completed the rout. In six days the Turks abandoned the center of their defense line and evacuated also Gaza. Every important place up to Jerusalem fell rapidly to the new mobile attack. In five weeks the Anzac Mounted Division reached the Jordan. German forces attacked along the Jordan in July with temporary success. But in three months Allenby's infantry broke through the Turkish lines on the coast with a massed attack, and in a famous desert ride Chauvel's Anzac Mounted Division, then 12,000 strong, brought up with the enemy's rear. The combination of the striking force of the Mounted Division and the shrewd disposition of the forces by General Allenby completed the shattering defeat of the Turks in October, 1918.



"—let 'em come! !"



# Horse Sense and Horse Power

*By Lieutenant Colonel F. W. Koester, 2.M.C.\**

IN good old American parlance, this war is a free for all. Anybody can get in and almost everybody has. Already warfare has been carried to and over every continent and to, over and under every ocean but the Antarctic. In such a war, anything may be used and before it is over probably everything will be. So far as America is concerned, our success requires the fullest utilization of every resource and that includes the horse. How the latter will be used, by whom, and where is no concern of this article. It seeks merely to point out some lessons based on recent experience and some capabilities of the future.

It requires no great acumen to recognize and accept certain fundamental developments of the present war. This conflict more than any other is a battle of machine—land, sea, and air machines—and will continue to be. In such a battle, America is most fortunate to have the world's greatest resources, both in materials and means of manufacture, for providing the war machine requirements of our allies and ourselves. To cooperate with these machines, to insure and exploit their fullest success, to supplement them when they need it, to operate where they cannot, and to substitute for them where and when they are not available, has become, currently at least, the obligation of other elements of our armed forces.

There are other developments too. Thus far, only those nations whose armies have been properly balanced have enjoyed any large scale success. Conversely, those armies whose capabilities have been narrowed, through lack of balance in their material means, have been very limited in their success. No nation or combination of nations has had all of everything it needed. In meeting land transportation requirements, all armies successful to date have established and maintained a balance between motors and animals; they have found ample need for both. Furthermore, all armies victorious to date have utilized somewhere, sometime, large numbers of mounted men either as cavalry or to perform cavalry functions. Some factual information may be in order here. In Poland, Germany used more than 200,000 horses and when she overcame France, she had almost 900,000 horses in her armed forces. Practically all German artillery is horse drawn; each of her 245 or so divisions has

horse-drawn transport and each foot regiment a platoon of cavalry. Figures are not available concerning her use of horses in Russia but it is known her mounted and horse-drawn units have been widely used. Again, it is known that Germany advertised for and probably purchased all available horses in France for use in Russia. The Russians, though great exponents of air power and mechanization, have always used large numbers of horses and horse units. It is not proper to give actual figures but it can be said that Russia uses more horses than Germany. Throughout the German drive into Russia, the hard-riding Cossacks were frequently in the limelight—and they still are. They were conspicuous in the fighting on the southern front which apparently marked the turning point of the entire campaign and, as this is being written, early in March, they are being featured almost daily in news accounts from that front. Japan has used horses on a large scale in China and only a few years ago, in anticipation of current and future horse needs, inaugurated a very large scale remount program. In the invasion of Luzon, official as well as news accounts told of Japanese use of horse cavalry in the very rugged country around Baguio. Other examples might be cited.

The following paragraphs are quoted from an article prepared by this writer about ten days after the United States entered the war:

"What part the horse may play in future campaigns is, of course, a matter of conjecture; however, there are some things which appear reasonably certain. All armies are likely to continue to use horses they now have and



Russian Cossacks drive on in the direction of Smolensk.

\*In charge of the Western Remount Area, San Mateo, California.





Russian Cossacks in dismounted action on the Smolensk front.

will probably require replacements. In some new theaters of war being or likely to be opened, horses will probably be needed. Past experience indicates that, if and when practicable, present and probable future allies can and may use horses in large numbers. Again, any shortage of metals, fuel oils, lubricants, or other essentials of motorization or mechanization will obviously enhance the value of and need for horses both by our allies and us. Local security groups such as State or Home Guards, Sheriff's Poses, and the like are being formed in many parts of the country. Because of danger of fifth-column activities, the threat of parachutists, and for other reasons such groups appear very important. Furthermore, it is very desirable that many of them be highly mobile and capable of operating over any kind of terrain, day or night in any kind of weather which in many instances, at least, means that they must be mounted."

"It appears, too, that changes wrought by the war will add greatly to the need for horses in our domestic life; for example, curtailment of the manufacture of tractors, trucks, passenger vehicles and numerous power-driven implements, restrictions on the use of certain vehicles or in the consumption of certain fuels, or other commodities, or inability to import certain essentials—these and many similar conditions present or imminent cannot but increase the current importance of the horse. Again, America is not only the 'Arsenal of Democracy' but it very probably is also the bread basket. There can be no doubt that greater and greater demands will be made on our agriculture, cattle industry, and other industries related to food production. Obviously then, our transportation system to some extent and our agricultural and cattle industries to a great extent seem destined during the war to lean more and more on the horse."

The United States has been in the war three months since the quoted paragraphs were written. Noth-

ing has arisen which materially changes the accuracy or soundness of the views expressed in these paragraphs. In the face of prospective animal requirements, it may be of interest to examine our animal resources and our means of mustering them for our military or domestic use or both. To begin with, it is no military secret that the United States today has the largest pool of well-bred military and general purpose horses to be found in any country in the world. The same is true of our mule resources. These animal resources are actual rather than potential and they are in such condition as to permit their immediate use. In short, we don't have to produce our animals, we already have them. A still further advantage is the fact that these tremendous

resources are not only developed but they are currently distributed both in numbers and type, where they are most needed for our domestic use and can be most quickly assembled for military use. Our tremendous horse industry receives no subsidy from and involves no direct cost to our government. Nationally, it is a by-product. It requires little, if any, special personnel and few exclusive facilities.

To accomplish prompt and efficient assembly of our animal resources to meet any conceivable requirements, The Remount Service, a division of the Quartermaster Corps, is prepared and equipped to act. Through its seven territorial divisions known as Remount Areas, it can initiate a procurement program promptly and effectively in any part of the United States or over its entire area. By virtue of America having the finest and most extensive rail system in the world together with an equally effective network of highways, our animal resources can be assembled where and when needed within our own borders. Through its three permanent depots, the Remount Service can intelligently and efficiently issue animals as required. To maintain an even rate of production and to guard against future shortages, the Remount Service maintains and operates concurrently with its procurement operations a very efficient and widespread breeding system which involves the use of some 750 stallions.

What has this meant to our Army? First there can be little doubt that our horse cavalry is today better mounted than any similar arm in any army in the world. The same is probably true of our horse and horse-drawn artillery and of our pack units. Our American mule has no equal. Because procurement standards have been raised and processing methods greatly improved, remounts now reach using agencies very nearly, if not actually, ready for use.



# Editorial Comment

MAJOR GENERAL JOHN K. HERR, Chief of United States Cavalry, retired from active duty on February 28, 1942. It was upon his own application, after the completion of more than forty-three years of continuous faithful, loyal and meritorious service. During his tour as Chief of Cavalry, which began in March, 1938, General Herr made the most of every opportunity to improve and modernize the Cavalry Arm, and there were recorded many noteworthy achievements:

General Herr was the first to sponsor the ¼-ton truck, generally referred to as the Bantam or Jeep. In this he was ably supported by General Lynch, then Chief of Infantry.

General Herr was among the first to strongly advocate large areas for training, specifically in the vicinity of Fort Bliss, Texas.

Being a natural fighter and having the full strength and courage of his convictions, General Herr relentlessly maintained, throughout his service, that horse cavalry was essential to a well balanced army. Had it not been for his strong policy in this regard during those years when the British mechanized much of their cavalry and when commercial motor propaganda was at its height, our horse cavalry doubtless would have suffered dire consequences. As a result of his unrelenting and uncompromising attitude relative to the retention of horse cavalry, the 1st Cavalry Divisional organization was perfected, and the 2d Cavalry Division came into being with its complete organization and equipment, authorized.

General Herr's frankly out-spoken fight for horse cavalry aroused in some quarters the feeling that he was opposed to mechanization. Nothing could have been farther from the truth. General Herr fully appreciated the possibilities and capabilities of mechanization and freely exploited its use by cavalry—but *not at the expense of horse cavalry units already existent*. His attitude was particularly exemplified by his strong advocacy of the Corps Reconnaissance horse-mechanized regimental organization; but at no time was he willing to completely *replace* and reorganize our horse cavalry as totally mechanized units such as was done with the 1st and 13th Cavalry Regiments.

The mechanized reconnaissance squadrons, as set up by the Chief of Cavalry, proved unquestionably to be sound and of extreme value in accomplishing cavalry missions.

The introduction by the Chief of Cavalry of the 81-mm. mortar into horse units was another important progressive step in modernization.

The horse-portée trailer was developed under the direct supervision of General Herr and greatly added to the strategic value of cavalry.



General Herr

Authorization for the treatment of horse shoes to prolong shoe-life on hard surfaced roads and the necessary war priority authorization was another among many achievements.

Biographical data relative to General Herr, are as follows:

He was born at White House Station, New Jersey, on October 1, 1878. He was graduated from the United States Military Academy in 1902, and commissioned a second lieutenant of Cavalry.

General Herr's early service included a tour in the Philippines, service as an Instructor at the United States Military Academy and duty in the Hawaiian Islands.

During the World War he served as Chief of Staff of the 30th Division in France and participated in the Somme Defensive, Ypres-Lys Offensive and the Somme Offensive.



General Herr was awarded the Distinguished Service Medal, together with the Belgian Order of Leopold, for extraordinary service as Chief of Staff of the 30th Division, American Expeditionary Forces, in the capture of Voormezelle and Lock Eight in the Ypres Section in Belgium in September, 1918, and in the breaking of the Hindenburg line at Bellicourt, France, and in operations against the Selle River and the Sambre Canal, September 29-October 20, 1918.

From November, 1920, until August, 1922, General Herr served with the American forces in Germany, at Coblenz, during which time he was Assistant Chief of Staff for Supplies and later Assistant Chief of Staff for Operations. Upon his return to the United States he served in the Military Intelligence Division, War Department General Staff, until July 1, 1924.

General Herr is a graduate of the Army War College, The Command and General Staff School, The Mounted Service School and The Cavalry School.

He was a member of the faculty, Army War College, from 1928 to 1932.

He commanded the 7th Cavalry at Fort Bliss, Texas, from September, 1935, to March, 1938, when he was appointed Chief of Cavalry.

General Herr is an ardent horseman and can be seen riding frequently in the parks and trails of Washington and Virginia on his thoroughbred charger, *Star Witness*. He was one of the Army's most noted polo players, being a member of the Army Team which defeated the British Army Team at Meadowbrook in 1923.

General Herr's retirement has been a great loss to our cavalry arm—and none can appreciate this fact better than those of us who served under his command in the Office of the Chief of Cavalry.

### Mobile Force

Highly mobile ground troops—such as cavalry, reconnaissance elements, the armored force, antimechanized elements and motorized infantry—are cohesively being drawn together simply because of the strategical missions which they perform in common. They speak and understand the same language irrespective of their respective modes of travel and tactical methods.

The Germans appreciating this pertinent fact already have grouped such units under the heading of (*Schnell Truppen*) Mobile Troops. That they have functioned efficiently under such grouping is beyond question.

Mobile warfare demands decentralization in the execution of mobile missions. Decentralization in combat requires the use of well-balanced combat teams. The character of terrain and the tactical situation usually indicate the necessity for *motors plus animals* in order that objectives can be reached regardless of the incidents of terrain, climate and weather.

Balanced combat teams capable of handling diversified combat situations are the result of long-range

planning and training. They cannot effectively be created after the battlefield is reached.

### Firearms Registration?

*There is no law requiring the registration of privately owned firearms for civilian defense!*

Yet, many well-intentioned members of local defense councils have tried illegally to frighten people into gun registration, under the guise of "civilian defense."

The only practical use for such "defense" registration lists will be to make available to Fifth Column Groups information as to where they can acquire additional arms and what homes they should descend on first when outbreaks of local violence are called for by the enemy plan.

In Belgium and northern France the German military commander gave the population until January 20th to surrender their firearms. After that date it was assumed that anyone found in possession of arms would be executed.

The Nazi invaders similarly set a deadline recently in Czecho-Slovakia, in Poland, in Norway, in Roumania, in Yugoslavia and in Greece.

The Japs, under Lt. Gen. Tomoyuki Yamashita, in the Philippines, more recently followed suit:

Why? Because the privately-owned firearms of the few citizens who "neglected" to register their guns have been a constant worry and danger to the Hun and his Quislings, and the Jap.

Surely, no defense official is so naïve as to believe that in an emergency, with lives at stake, a gun can be issued to any civilian defense worker who happens along—even Fifth Columnists who might "have happened" to enroll.

*Better think through this matter of Firearms Registration!*

### Yet, They Can't Shoot?

Clark Lee, Associated Press staff writer, with General MacArthur's army on Bataan Peninsula, in describing a recent visit with General Pierce, well known to cavalrymen, wrote a characteristic description as follows:

"... I ride a few miles farther with a busload of Filipino soldiers heading for the front and then walk into the tent field-headquarters of Brig. Gen. Clinton Pierce in a partially-cleared grove. Pierce, from Brooklyn and one of the fightingest men in the United States Army, recognizes me through the coat of dust which sweat has turned to mud and recalls our last meeting, on December 29th, when the command he then headed, *the Twenty-sixth Cavalry, was covering the right flank of the United States forces moving toward Bataan Peninsula*. . . . Pierce was promoted, many of his officers were decorated and *the whole regiment was cited for the rear-guard*



fight against the Japanese all the way from Damortis to Bataan. . . .

"Gen. Pierce has one foot in his familiar riding boot, the other minus a toe, in a bedroom slipper. A sniper got his toe two days ago. . . .

"These weren't kids they sent against us at Damortis, Pozorrubio, Binalonan and Tayug," he says. "They were seasoned troops about 21 to 24 years old. Now they have suicide missions attempting to land on our flanks so they pick their best men and toughest fighters. But I still say they are rotten rifle shots. That sniper took three cracks at me across the road here but couldn't hit anything but my toe. . . ."

—Also see *Life Magazine*, March 2d, article by Captain Wheeler describing action of 26th Cavalry.

### Training

The paramount consideration of our army today is thorough training. For all units, combat is imminent if not already actual. We are at war! There is no time now to lose!

Training and field duty are closely related to organization, discipline and morale. A sound organization, a disciplined body of troops, a mass with high *esprit*, make training quick and effective. Moreover, training makes organization cohesive, discipline better and morale higher.

The great development of mechanical means and the increase in complexity of tactics have widely enlarged the importance of basic and fundamental training. There is so much practical business to know and so little time in which to learn it, that unit commanders are confronted with huge tasks in carrying out the programs and schedules which are intended to cover the elements of the training regulations. To give the prescribed training in an interesting and lively way an officer must exercise the maximum amount of thought and ingenuity. Enthusiasm begets enthusiasm. Even though his unit may be detailed to guarding a critical area or establishment he must by rotation of units find a way to keep his command trained, interested, and alert—ready for immediate combat.

There seem to be three classes of officers as far as training is concerned. They are the *strong*, the *weak*, and the *bashful*. The strong officer lets *nothing* stand in his way of gaining the objective desired by regulations and by his commanding officer. After-hour work is immaterial to him so long as he sees that he is approaching the desired goal fast enough and thoroughly enough. He is not afraid to speak out and correct errors whenever he sees them. The weak, are complacent and listless in their control. They see errors but do not correct them. The bashful, lack confidence and are fearful of correcting errors. They avoid seeing them. It is good for timid and weak officers to be placed in the same unit or near strong officers. If then there is no

immediate improvement weak and timid officers should be assigned to administrative duties to release strong officers for combat training.

*Time for training, obviously, is at a premium!*

### A Moral

These two illustrations of methods of discipline are presented without comment:

"1) It was one general officer's habit to correct in person every recruit he saw with his coat unbuttoned. He once ran the length of a block to overtake a soldier and reprove him publicly because one button of his blouse had the head of the eagle pointing downward. The admonition was administered before a crowd of grinning civilians.

"2) Just before the second day's fight in the Wilderness, General Lee rode along the front of the Texas Brigade, drawn up for his inspection. Opposite the center of the brigade he turned his horse and silently faced his men. Knowing that many of them were going to their death, tears filled his eyes. He gazed at them in silence a few moments, raised his hat and silently rode away. Then a tall, raw-boned Texas private stepped from the front rank and facing the battalion said with emotion, 'If any . . . of a . . . here don't fight today, after what the General has just said to us, I will shoot him in his tracks!'"

### What Next?

It is anybody's guess! One fact, however, is definitely clear—that those of us who "wear the cloth" are less concerned now about *post-war* considerations and entertainment than we are about getting equipment, weapons and training for immediate combat to win *this* war.

The soldier has little to do with the ramifications which produce war. It is his job preëminently to prosecute war. Everyone does or should understand this. We have no time now for casting aspersions. We are at war and *in it up to our necks*. It obviously is to our advantage to pull together and stick together. *Unity produces strength*.

Every consideration, therefore, that does not directly and specifically further our war effort is now worse than a waste of time.

*We must not be side-tracked from our purpose!*

### Colors on Army Headgear

Most of the colors of the rainbow are utilized to distinguish the various arms, services and bureaus of the United States Army. The colors as prescribed for enlisted men for the service hat require the first named color to be used for the cord and the second named color to be used for the acorns and keeper. A gold cord is





### Emblem of Honor

The *Emblem of Honor Association* has asked us to help them contact Service papers in locating *mothers with four or more sons* in the Armed Forces.

The Association is a non-profit organization which arranges public presentation of the *Emblem of Honor* to these mothers with a view not only to honoring the families and increasing their pride in the boys service, but also to build public morale and encourage voluntary enlistments.

All information with reference to these families should be sent to the Association at 60 East 42d Street, New York, N. Y.

used by general officers; gold and black intermixed are worn by other officers; silver and black is the prescribed combination for warrant officers.

Color combinations also are used in the cord edge braid which is placed on the caps of enlisted men.

*The official colors used are:*

Adjutant General's Department—Dark blue, piped with scarlet.

Air Corps—Ultramarine blue, piped with golden orange.

Armored Force—Green, piped with white.

Cavalry—Yellow.

Chaplains—Black.

Chemical Warfare Service—Cobalt blue, piped with golden yellow.

Coast Artillery Corps—Scarlet.

Corps of Engineers—Scarlet, piped with white.

Field Artillery—Scarlet.

Finance Department—Silver gray, piped with golden yellow.

Infantry—Light blue.

Judge Advocate General's Department—Dark blue, piped with white.

Inspector General's Department—Dark blue, piped with light blue.

Medical Department—Maroon, piped with white.

Military Intelligence Reserve—Golden yellow, piped with purple.

Ordnance Department—Crimson, piped with yellow.

Permanent Professors of the United States Military Academy—Scarlet, piped with silver gray.

Quartermaster Corps—Buff.

Signal Corps—Orange, piped with white.

Specialist Reserve—Brown, piped with yellow.

✓ ✓ ✓

### A Challenge

During the past calendar year The CAVALRY JOURNAL repeatedly challenged cavalymen, particularly our splendid cavalry bands, to produce a popular cavalry song; but as yet our challenge goes unheeded.

Our cavalry bands rank high among other army bands and unquestionably they could produce an appropriate cavalry song if they'd only "put their minds to it."

What's ailing, Band Leaders? Cavalymen expect you to accept the challenge; so let's get at it. "Garry Owen" means a lot to the 7th Cavalry, but we want a song that will be dear to the heart of *all cavalymen!*

✓ ✓ ✓

### Service Journals

Prior to the recent War Department reorganization, the Cavalry, Coast Artillery, Field Artillery and Infantry Journals operated under the supervision of their respective Chiefs of Branches.

Under the new set-up the editors of these service journals have been assigned to the Requirements Section, Headquarters Army Ground Forces. The journals, however, will continue publication as formerly and will be "cleared" by the War Department Manuscript Board.

Addresses of Editorial Offices in Washington are as follows:

The Cavalry Journal, 1719 K Street, N. W.

The Coast Artillery Journal, 1115 17th Street, N.W.

The Field Artillery Journal, 1218 Connecticut Ave.

The Infantry Journal, 1115 17th Street, N.W.

### APO?

Keep us posted as to your change of address!

Regardless of where this war may take you, if you will send us your APO when you embark for foreign soil, The CAVALRY JOURNAL will reach you wherever the United States mail is carried.



## Editor's Mail

Editor, The CAVALRY JOURNAL:

We have noted with pleasure that the first number of The CAVALRY JOURNAL, 1942, bears below its title *Volume LI No. 1*.

The CAVALRY JOURNAL has for years been a much appreciated volume on our shelves, we have it almost complete from the first number. The current numbers are looked forward to with great interest.

May we extend to you our congratulations and best wishes upon the completion of 50 volumes, an event which we feel should not be allowed to pass without comment.

Yours faithfully,

JABEZ H. ELLIOTT, LT. COL.,  
Honorary Librarian.

Canadian Military Institute,  
Toronto, Canada.

✓ ✓ ✓

Editor, The CAVALRY JOURNAL:

Your CAVALRY JOURNAL of January-February date carried the finest, simplest, most graphic and convincing presentation of the true case of the horse that I have ever seen. The articles would be a good initial basis for some needed national education and enlightenment.

The fact that the pointful and timely message contained in the masterful and comprehensive address of General Herr doesn't have national distribution is little short of tragedy. The photography and selection of pictures were superb . . . effectively illustrating that "modern" and "victorious armies" still find the horse an essential ally in their operations.

General Hawins' Notes were very pertinent at this time. In fact the entire content of this issue was very stimulating, and as has been characteristic with your publication, all of the articles contained information of lasting value and interest.

The pictures depicting the retarding effects that boggy roads have on mechanized units was particularly interesting to me. Only last week I completed a cross-country drive, from Oregon to Georgia, much of the area traversed was either covered with snow or boggy from thaw and rain. Mechanized units would be very inefficient anywhere in this wide area except on the paved road nets, even the side streets in the country towns of the Nebraska section I passed through would

be impassable to any motor propelled vehicle. My opinion on this is substantiated by the fact that residents use only horse-drawn vehicles and sledges for short distance travel and farm operations.

Manufacturers of automobiles, trucks and tractors, with the coöperation of radio, newspapers and screen have given the American people a very false picture of the capabilities of motor propelled vehicles in cross-country war-condition operations, and the limitations of the horse. Junior officers seem particularly susceptible to this propaganda, getting a romanticized and unrealistic point of view. The picture is further distorted by the wily use of comparisons between the motor and the horse, using illustrations that are entirely outside of the horses normal field. It is never mentioned that in actual combat operations, mechanized units need a "tailor made theater"; that weather, climate, ground conditions, road net surfaces, and supply and maintenance, are serious continuing problems. All battles will not be fought on firm ground and paved highways.

Aside from actual combat there is a great field for animal-drawn transport . . . animals could satisfactorily be used in lieu of motors for short distance and interior work, thereby releasing motor vehicles for long distance hauling, combat to which they are adapted, not to mention the conservation of fuel, maintenance and rubber.

Signed: CECIL L. EDWARDS,  
Captain, (Inf) QMC

Supply Battalion  
2d Armored Division,  
Ft. Benning, Georgia,  
5 February, 1942.

✓ ✓ ✓

Editor, The CAVALRY JOURNAL:

Just received my January-February issue of The CAVALRY JOURNAL and have gone through it hurriedly. I want to extend to you and the The JOURNAL my heartiest congratulations on this issue, which I believe will do more good for the horse cavalry and the horse in war than any single piece of printed matter I have ever seen published. The only regret I have is that every person in the United States can't be forced to read it, and I might add that a lot of people in uniform could profit from its study if they only would.

Signed: F. W. KOESTER,  
Lt. Colonel, QMC.,

San Mateo, California.

**Please give the inclosed subscription card to a non-subscriber  
and use Change of (APO) Address Cards.  
DEADLINE DATE NEXT ISSUE, MAY 5th**



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



# Camouflage vs. Mission Failure

*By Lieutenant David H. Houck, 84th Engineer Battalion  
and Lieutenant Jay W. Doverspike, The Engineer Board*

DEATH to the individual, failure of the mission, and jeopardy to the troop, the regiment, the division or even to the army corps can result from lack of, or faulty, camouflage. The analogy to Ben Franklin's "For want of a horse shoe nail . . ." is particularly applicable in cavalry reconnaissance units. For want of a little camouflage a scout was lost. For want of a scout a troop was captured. For want of a troop a flank was open. For want of a flank a corps was surprised and annihilated. All for the want of a little knowledge and training in camouflage.

Sounds far fetched does it? Well it happened in Poland. It happened in France, it happened in Greece, in Libya, in Russia and by the time this gets into print it will be happening again on any one of the world's half a dozen battle fronts.

Obviously, the loss of one man will rarely have serious results, but if enough "one man's" are lost it is a different story. The point is, that unless the individual soldier is so thoroughly grounded in camouflage discipline that it becomes second nature to him, he may never survive to accomplish his mission.

The same holds true of the unit, whether it be platoon, troop, squadron, or regiment. But again it returns to the individual, for the carelessness of a single man can give away the position of any of these. The value of undiscovered reconnaissance cannot be over emphasized to a cavalryman. Time after time, in the Carolina maneuvers we were told blandly, "Oh the men don't bother with camouflage now, but just wait until they hear a few shells. Then they'll camouflage."

It reminded me of the man who was asked if he could play the violin; "Well, I've never tried, but I suppose I could if I had to," he replied. Camouflage isn't as hard to learn as playing a violin—but neither can it be put on like a coat. It's an art which puts an added premium on perfection—for anything short of perfection is death—and perfection cannot be attained without practice, even in so simple an art as camouflage. As mentioned before, it must be practiced over and over until it becomes second nature for every man to pay careful attention to every one of the dozens of details which might give him away. You wouldn't send a man to face the enemy who couldn't protect himself from gas. How much more often he

will be required to protect himself from enemy observation.

If recent maneuvers proved anything about camouflage, they proved that camouflage cannot be taught effectively in the field alone. Camouflage *must* be taught and taught thoroughly in garrison. It must be practiced in garrison. It must become second nature in garrison so that it is applied almost unconsciously under the stress of combat.

Too frequently it is assumed that men know or have acquired a knowledge of camouflage measures through general tactical experience. Most have never undergone a thorough and extensive course in the subject. Every man should have this training, if he has had it before, he should be given it again, for it is only through repetition and practice that such material can be absorbed and retained.

Camouflage is a difficult subject to teach. It is difficult to make men enthusiastic about a subject where the desired result is negative. If he is successful in hiding himself or his equipment, nothing will happen and he probably won't even know whether his position has been under observation. Even under combat conditions, the results of faulty camouflage are frequently so indirect that the soldier may never realize that bad camouflage accomplished half an hour before was what brought on an artillery concentration, an enemy flanking movement, or an aerial attack. And the discouraging thing is that usually the men who have learned the lesson the hard way are too dead to apply it.

Definite attention must be given to the responsibility for instruction, enforcement and execution of camouflage and camouflage discipline. In accordance with FM 30-25, Counterintelligence, Sec. I, Par. 2, "Responsibility. The commander is responsible for all counterintelligence measures within his command." The responsibility must necessarily include, secrecy



Figure on left clearly distinguishable; figure on right, if in prone position, would be difficult to locate.





Sniper suit on figure at right fades into landscape.

discipline and concealment. This does not, however, preclude consultation with, and advice of experienced camouflage officers where possible. If further clarification is needed, Training Circular No. 60, War Department, October 2, 1941, states, "III *Field Camouflage*. Experience in recent maneuvers has indicated that there is misunderstanding of the responsibilities for, and measures for achieving, proper protective concealment and camouflage of equipment, matériel, and personnel. With view to clarification the following is published for the information and guidance of all concerned:

According to the present camouflage doctrine:

a. The Commander of any unit is responsible for the camouflage measures and camouflage training within his command.

b. Every officer and enlisted man must be trained in the need for and means of taking advantage of natural cover, and the use of camouflage materials."

It is believed that adherence to the following suggestions would assist in emphasizing the responsibility for training and execution of camouflage or protective concealment.

a. That War Department Training Circular No. 60 be placed on the required reading list for commanders of all units up to and including the highest echelon of command.

b. That each troop commander appoint a junior officer or non-commissioned officer who, in addition to his other duties, will be responsible to the commander for the observance of camouflage methods and discipline at all times, and will endeavor to instill in the minds of the personnel of the troop that their lives and the accomplishment of their missions depend upon the strict observance of the rules of camouflage by every man. Show them that it's only common sense on their part for the group to watch for offenders and require them to obey the rules of camouflage.

c. That every driver be impressed with his responsibility for the concealment and security of his own particular vehicle.

d. That each man be observant and helpfully critical of the negligence of other members of the command. A number of small mistakes make a large one and a possible catastrophe.

Camouflage or protective concealment as applied to cavalry is simplified to a great extent by the fact that the reconnaissance elements are first on the ground and are scattered over a wide front. With the exception of the horse trailers, cavalry camouflage is entirely a matter of knowledge and discipline. Which brings up the misused and misinterpreted term "camouflage discipline." Many people seem to think of it in terms of TBA equipment to be drawn from the Quartermaster or Ordnance. Others visualize it as an inherent quality of every soldier which can be turned on like a water faucet. Camouflage discipline is merely the will to camouflage. It is utterly useless without the knowledge of what to do. The two are inseparable—knowledge and discipline. One will do no good without the other. For this reason, they will be treated together.

The technique and theory of camouflage are rather fully covered in the Engineer Field Manual 5-20, and in numerous articles in such publications as "The Military Engineer," "The CAVALRY JOURNAL," etc. For the purposes of this discussion it will suffice to repeat the four fundamentals of camouflage: (1) Form, (2) Shadow, (3) Texture, (4) Color.

(1) *Form*. A truck or a trailer is distinguishable by its shape. Man makes objects in straight lines. Nature never makes straight or regular outlines. Unless the regular shape of large man-made objects is broken up by camouflage, the straight edges will stand out in marked contrast to nature's irregular background.

(2) *Shadow*. Man-made objects cast characteristic shadows. From the air, and in aerial photographs, the shadows are frequently seen before the objects themselves. To camouflage, the shadow must either be hidden or broken up.

(3) *Texture*. Flat smooth surfaces must be avoided as they reflect more light than rough and irregular surfaces, even though the color matches perfectly. It there-



Good comparison of merits of camouflage suits for use by scouts and small units.





fore follows that in camouflage, textures must be matched as nearly as possible.

(4) *Color*. While color should be matched approximately, it is the least important of these four factors. Every color is found in nature, and at a distance, all tend to lose their identity.

So much for theory. Now to apply these principles to Cavalry in the field. One of the biggest problems is the scout car; the same methods can be used for trucks and command cars.

There are three methods of achieving results in protective concealment, any one of which has its place in camouflage study or training, namely:

(1) *Hiding* which indicates the complete concealment of an object.

(2) *Blending* or making an object indistinguishable from its surroundings by breaking up its form and shadow, and toning color.

(3) *Deceiving* or causing an object to appear to be something else, and by the utilization of dummies, both of which are confusing to direct or indirect observation.

Here are some hints which will prove helpful:

1. First of all, drivers of all vehicles must be impressed with their responsibilities and properly trained in order that they may know what action to take under any or all conditions. It does not stop with the concealing of the vehicles on various *practice* occasions, as most of them assume. Drivers must be trained to conceal their vehicle *every time they stop*, even if for only a few minutes. This means *every time*—and immediately. It only requires one time to get killed. Command car drivers are particularly negligent in this respect. They seem to think that driving an officer makes them invisible. As a matter of fact, command cars with their light tops are harder to hide than almost any other mili-

Japanese make good use of camouflage. Photo shows a truck and soldiers disguised by a covering of nets and straw.

tary vehicle. An OD compound has been developed for canvas, and by the time this article has been published will probably be available through division, corps, and army quartermaster depots.

2. Do not drive across an open field to get into the woods. If you have to cross open land, go around the edge of the field. A simple track across an open field stands out like a neon sign from the air. It will invite closer observation and probably attract a small bomb or so.

3. In moving into a bivouac or assembly area, stay on existing tracks. Don't broaden a road, unless necessary to avoid making a new road. It is obvious from the air, is a sure sign of activity, and is an indication of traffic volume.

4. Get under a tree on the shady side and move around with the shade. It may be a lot of trouble, but it's easier than dodging machine gun bullets.

5. Be careful not to park too close to the edge of a woods. You'll be visible from ground and oblique aerial observation.

6. Park at least 50 yards away from the nearest vehicle. This is very important in the event of detection of an individual vehicle.

7. Carry pieces of burlap to cover windshields and headlights. Turn rear view mirrors down. When observed from the air, various bivouacs have looked like Christmas trees because this precaution was neglected.

8. Cut brush and put it around and over your vehicle to throw shadows on it and to break up its outline. Avoid making it look like a brush heap, and don't cut the brush nearer than 100 yards from the nearest ve-



hicle. Always place plant material right side up, as the under side generally has a different shade of coloration than the upper side.

9. Replace brush or branches when they begin to wither. Dead brush in summer is worse than none at all.

10. Remember that camouflage is not one of those details where you can sit back on the assumption that, "If everyone else does it I won't have to." In camouflage, *everybody's* job has to be done completely and well, or else.

11. Disturb as little as possible the appearance of existing natural conditions. The enemy may have previously taken photographs of the area.

12. Remember that, although you are first on the ground and may leave it before you are detected, other units will come in behind you and want to use that same spot for concealment. Don't disturb the ground any more than is absolutely necessary, either in entering or leaving.

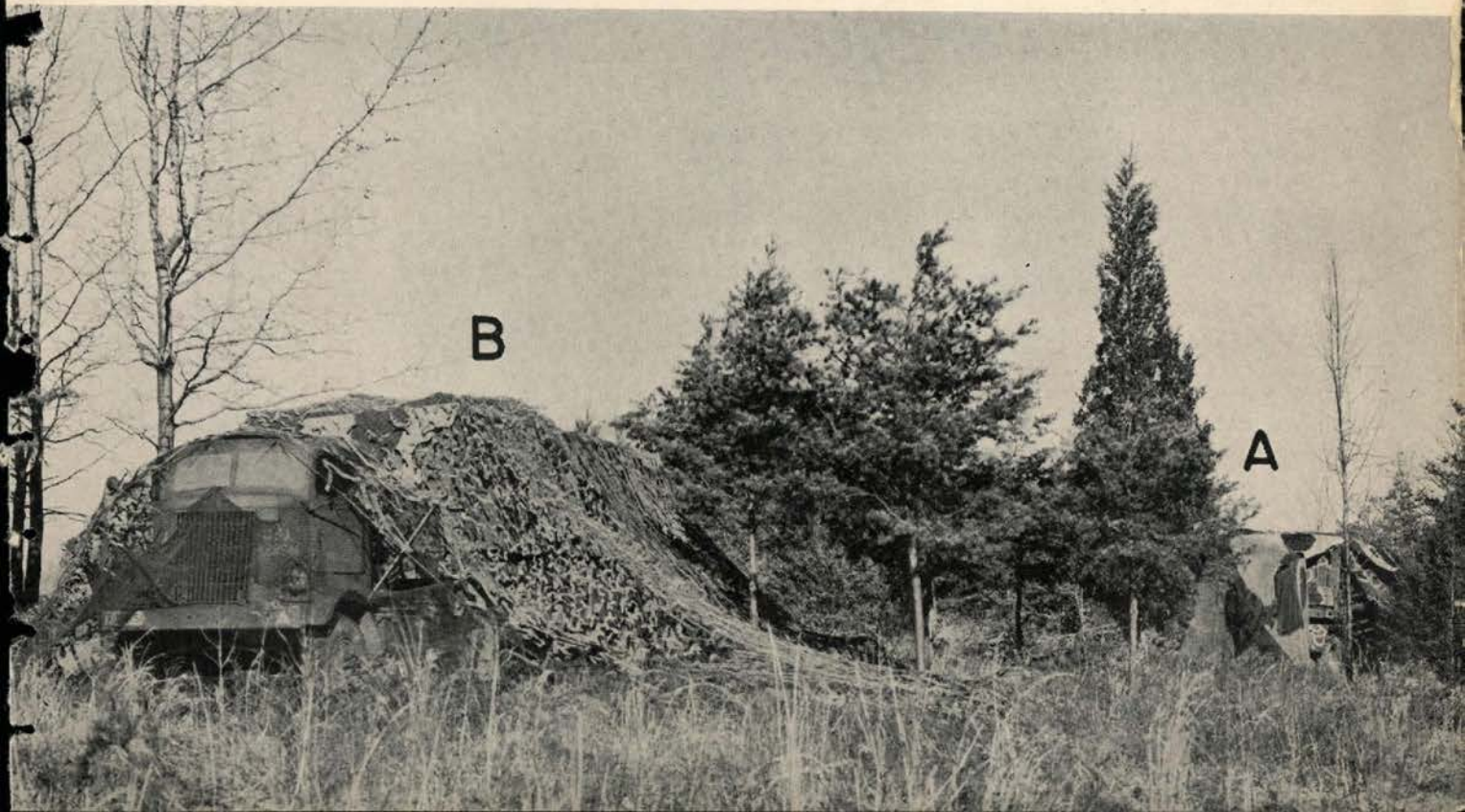
Tests of the use of nets and drapes for vehicular concealment have been carried out and found to be beneficial if skilfully executed. In flat, open country, use of the flat top net is probably most effective because of the possibilities for diffusive blending and obliteration of form. The large quantity of material and extensive labor required are, however, a major handicap to its use. The drape while not so effective unless utilized in conjunction with screening plant material, has the advantages of speed of erection, smaller quantities of material required, and requires less transportation space. The drape if simply thrown over the vehicle does not screen one of the major targets of observation, namely, the form

of the object. Poles or other contrivances are therefore necessary to break up the form of the vehicle under the drape. In flat, open country where drapes and nets are used, it is also essential that particular care be taken in blending the color tone and texture of both flat tops and drapes, in with that of the surrounding landscape.

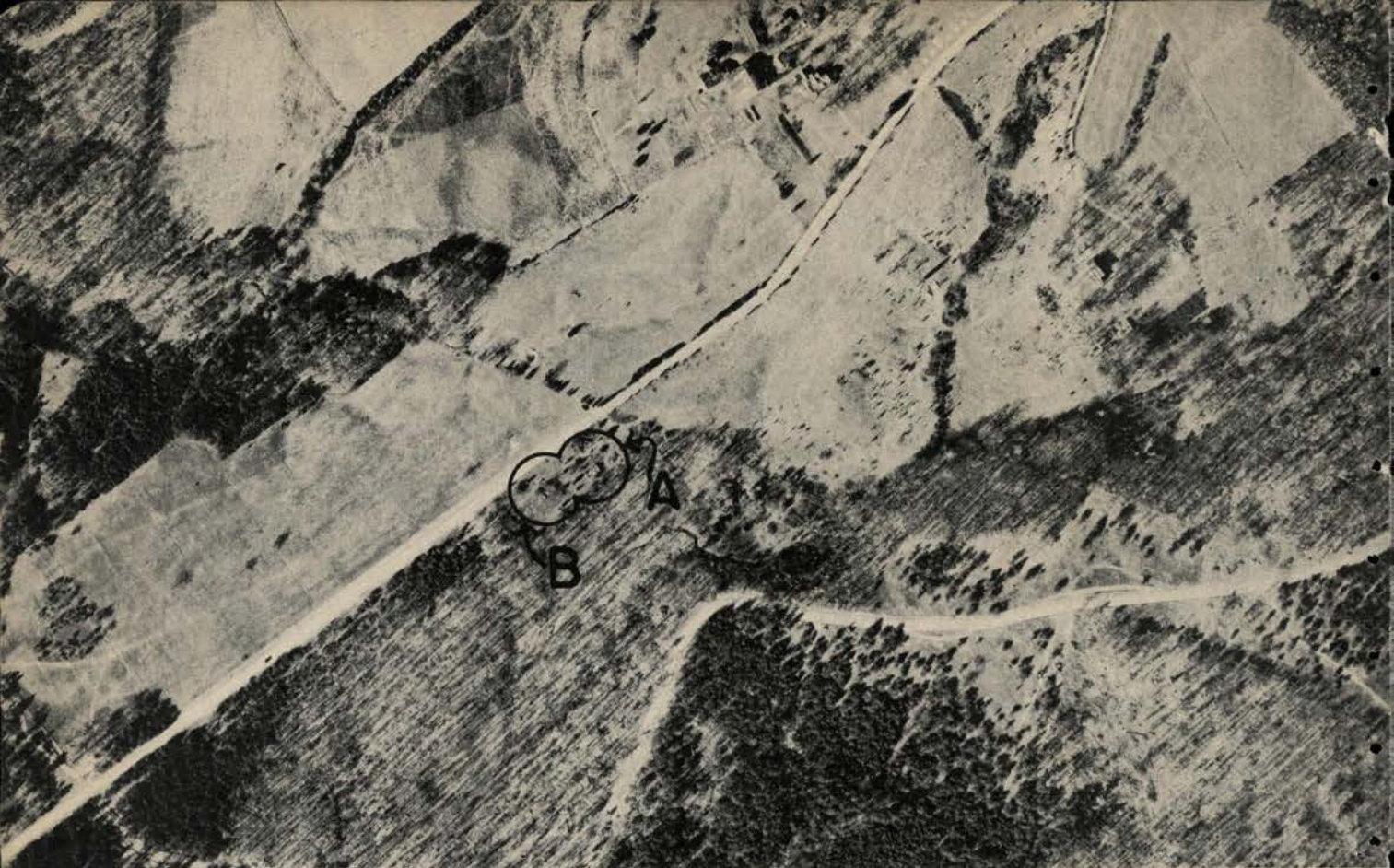
Cavalry units in bivouac or in assembly areas have much the same problem as other arms, in that a large amount of space is required. Otherwise it's the same as Artillery, Motorized Infantry, or any other mobile branch. The methods described above hold for all vehicles. Men, of course, disperse as much as possible and take advantage of natural cover. If shelter tents are pitched, they are located under cover and are usually taken down in day time. If not, they are concealed with natural materials. Special care must be taken with kitchens and kitchen utensils. Smoke in the daytime and firelight at night will draw attention more quickly and from a greater distance than any other single factor. In a flight over supposedly concealed bivouacs during the Carolina maneuvers, positions as far as five or six miles away were picked out from smoke alone. Paths into the area, to the latrine, and to the kitchen should be marked to follow a covered route. At night no lights should be allowed. Smoking should be prohibited.

Camouflage of individuals is pretty thoroughly covered by basic training in scouting and patrolling, and at the risk of making an "assumption of knowledge" warned against earlier, it is assumed that every cavalryman will be thoroughly familiar with all phases of this art. Lately, however, camouflage suits or sniper suits have been developed and tested by the Engineer Board, and have proved very effective in concealing individuals

(A) Trailer covered with painted drape. (B) Trailer covered with garnished drape.  
—see aerial view on next page.







Aerial view of two camouflaged horse trailers shown in ground view.

in patrols, outposts, etc. They look more like the pajamas of a sloppy artist than anything else, but blend remarkably well with natural colors. In any attempt at individual camouflage there is one precaution that must be taken while under observation either from the air or ground. Movement must cease entirely. As long as a man is motionless, he stands a good chance of escaping detection. The moment he moves, however, all the camouflage devised by man would be insufficient to hide him. Another rule is to keep the face down. Particularly true when under aerial observation. Keep in the shadows. If you do, your own shadow will be absorbed, and as long as no light reaches you, none can be reflected to the eyes of the enemy, or to his camera.

Experimental work on Cavalry problems has been conducted in several localities. Refer to articles in *The Cavalry Journal*, Volume No. 5, Sept. and Oct., 1938, and the *Military Engineer*, Volume XXXI, No. 176, Mar. and April, 1939, and No. 179, Sept. and Oct., 1939.

Now under way at the Engineer Board, Fort Belvoir, Virginia, are experiments on cavalry's most serious problem, the concealment of its horse portée trailers. Regardless of what comes out of the experiments, these huge vans will always require a tremendous area of the best natural cover. Neither the Engineer Board, nor our enemies have yet invented an invisible paint, so don't expect any such miracles as when a certain outfit on maneuvers in Louisiana last summer sent a pyramidal tent to our base camp with the following note: "Please

camouflage this tent, we'll be back for it tonight."

The personnel of any command post, regimental, squadron, troop or any other, has a two-fold camouflage responsibility. Not only is it responsible for its protection to save its own skin, but as the nerve center of the unit, the security of every man in the unit is dependent upon its continued and efficient operation. For this reason, the actual command post should be located well away from any concentration of vehicles, and visiting vehicles must not be allowed to park in the vicinity. Activity around the area of command should be reduced to that absolutely necessary for operation.

During the Carolina maneuvers, a detail from the 84th Engineer Battalion (Camouflage) spent five weeks with one of the horse-mechanized corps cavalry regiments. Their report is discouraging. "Oh, we move too fast to bother with camouflage," was the general attitude. Our answer is this: "You don't move all of the time, and when you stop, camouflage! Your observations will be more accurate and more complete if you can make them undiscovered. Your chances of getting vital information back to your command are infinitely greater if you can remain undetected." The day of the spectacular frontal attack passed with the "Charge of the Light Brigade." It made a good poem and a lot of dead heroes, but it was bad tactics. Camouflage may take some of the dash out of cavalry operations, but putting it bluntly, a dead cavalryman is of no use to anyone except his insurance beneficiary. Remember General Braddock! He was bold and disdainful of the very effective camou-



flage methods of the Indians. He's another who learned his lesson just a little too late.

It is not meant to infer that this attitude pervades the cavalry, but it should be corrected where it exists. Time and again, the writers saw scout cars draw up in the open at crossroads and in towns. You can't fool the enemy if you show your hand before the betting starts.

Observation flights brought out one point which has been mentioned before. That is, a single clue is all that's needed to give away a position. Time after time our attention was attracted to an area by tracks, smoke or flashing windshields. Closer inspection disclosed bivouacs. If our attention hadn't been attracted, we probably wouldn't have picked out those patches of woods, because from 5,000 feet you can see a lot of land, and at 200 miles per hour, you don't get a chance to give detailed inspection to all the possible troop sites in that area. If you can escape attention, you have a good chance of getting by unobserved.

As long as the present conflict continues, science will work diligently to add to the capabilities of the aircraft and the camera; so, too, will the adeptness of the air observer and the photographic interpreter increase with experience. In order to counteract these advancements in science and experience, it is the responsibility of all to redouble our efforts to master the technique of camouflage or protective concealment. This can only be accomplished by continual experimentation, exchange of ideas between branches of the armed forces, and constant application of principles recognized as fundamental.

Most forms of natural life have become instilled with an inherent instinct for concealment which governs their movement when under observation. Nature has favored them with certain colorations and forms which further aid them in the deception. This instinct, lost to us through civilization must be reestablished by study, instruction, training, and repetition.

## Completed Staff Work<sup>\*</sup>

**C**OMPLETED STAFF WORK is the study of a problem, and presentation of a solution, by a staff officer, in such form that all that remains to be done on the part of the head of the staff division, or the commander, is to indicate his approval or disapproval of the *completed action*. The words "*completed action*" are emphasized because the more difficult the problem is, the more the tendency is to present the problem to the chief in piece-meal fashion. It is your duty as a staff officer to work out the details. You should not consult your chief in the determination of those details, no matter how perplexing they may be. You may and should consult other staff officers. The product, whether it involves the pronouncement of a new policy or effects an established one, should, when presented to the chief for approval or disapproval, be worked out in finished form.

The impulse which often comes to the inexperienced staff officer to ask the chief what to do, recurs more often when the problem is difficult. It is accompanied by a feeling of mental frustration. It is so easy to ask the chief what to do, and it appears so easy for him to answer. Resist that impulse. You will succumb to it only if you do not know your job. It is your job to *advise* your chief what he ought to do, not to *ask* him what you ought to do. He needs answers, not questions. Your job is to study, write, restudy and rewrite until you have evolved a *single* proposed action—the best one of all you have considered. Your chief merely approves or disapproves.

Do not worry your chief with long explanations and

memoranda. Writing a memorandum to your chief *does not* constitute completed staff work, but writing a memorandum for your chief to send to someone else does. Your views should be placed before him in *finished form* so that he can make them his views simply by signing his name. In most instances, completed staff work results in a single document prepared for the signature of the chief, without accompanying comment. If the proper result is reached, the chief will usually recognize it at once. If he wants comment or explanation, he will ask for it.

The theory of completed staff work does not preclude a "rough draft" but the rough draft must not be a half-baked idea. It must be complete in every respect except that it lacks the requisite number of copies and need not be neat. But a rough draft must not be used as an excuse for shifting to the chief the burden of formulating the action.

The *completed staff work* theory may result in more work for the staff officer, but it results in more freedom for the chief. This is as it should be. Further, it accomplishes two things: (1) The chief is protected from half-baked ideas, voluminous memoranda, and immature oral presentments. (2) The staff officer who has a real idea to sell is enabled more readily to find a market.

When you have finished your *completed staff work* the final test is this:

If you were the chief would you be willing to sign the paper you have prepared, and stake your professional reputation on its being right?

If the answer is in the negative, take it back and work it over, because it is not yet *completed staff work*.

<sup>\*</sup>Emanated from the Office of the Provost Marshal General, War Department. — Prepared by Colonel Archer L. Lerch, J.A.G.D.



# *General Hawkins' Notes*

## Some Lessons from the War

THE tragic events at Pearl Harbor on December 7, 1941, contain some lessons that are well worth thinking about by any cavalry commander as well as by the commanders of other forces and services.

The first thing that strikes one's mind is the question of security for a command whether in a position of defense, marching on roads or across country, or in actual battle, offensively or defensively. Measures for security are measures for the immediate protection of a command whatever its mission may be. If the mission of a cavalry command is that of reconnaissance to gain information for the higher commander who assigned the mission, there are certain measures that must be taken to prepare this reconnaissance. These measures are distinct and different from the measures for security which are taken to protect the command itself. If the mission of a command is to hold a position defensively, it uses patrols and outposts to protect itself from surprise, and it may be necessary also to send out reconnaissance patrols to obtain information of the enemy which has little or nothing to do with the immediate protection of the command.

Thus, we differentiate between information patrols and security patrols, although information and security are inseparable, and reconnaissance is one of the methods used for both purposes.

At Pearl Harbor, under the circumstances preceding the attack, there was necessity for those security measures which provide warning against surprise. There was also reason for other measures which constitute one of the subjects for this article.

The point that I wish to emphasize as a lesson is that if we assume in any possible case that the usual security measures are taken in the way of patrols, listening devices or covering forces, there is still something else necessary to do. It is simply this: After providing for the warning of a command, the commander must never regard his command as being perfectly secure. The enemy may be clever. He may outwit the leaders of our security elements. Our combat patrols may be imperfectly trained, our covering forces may make mistakes. And therefore, after taking every practical measure for warning against surprise, we must be further prepared in case these measures fail us.

For example, in a defensive position, we must keep our airplanes separated so that they cannot be caught by enemy bombers in close formation on the ground and too many of them unnecessarily destroyed. Even if they have to be guarded by numerous squads of sol-

diers against sabotage or ground attack, it must be done. Furthermore, our ground troops must be dispersed in small groups and not formed or camped in masses. These small groups, separated for this purpose, may be utilized to guard our dispersed airplanes, our artillery or our small groups of picketed horses. At night, our small groups of soldiers may be made as comfortable in bivouac as they are in large closely formed camps.

A cavalry command moving across country, either on a mission of reconnaissance or to attack a column of the enemy, or other purpose, disposes a covering detachment in front, moving by bounds. Its flanks are protected from surprise by combat patrols. In this manner it can move swiftly and fearlessly. But the commander should not count too certainly on these dispositions. The command must move in some formation ready for instant combat. Also, he may be attacked suddenly by hostile aircraft, and he must be able to deploy instantly into a dispersed formation. There will not be time usually to deploy from a closed formation. But there will be time if his command is already partially deployed by using a maneuver formation consisting of successive lines of platoons or squads.

He may be attacked by hostile armored forces moving rapidly against him upon the very heels of his retreating security elements. But, because of his formation, he may be able to avoid the devastating effects of a surprise. Further deployment in a direction away from the enemy or towards some rough or timbered ground will give him opportunity to lead the enemy away from his desired direction of advance, or into a trap composed of other friendly troops prepared with artillery and antitank guns to meet an armored onslaught. Or, his quick retreat may enable our commander to establish himself on suitable ground, difficult for armored vehicles and affording our cavalry command an opportunity to use its own antitank guns.

A command drilled in such tactics does not become demoralized by such sudden and rapid retreat, because the men know what it is for. It is something they have practiced.

By these means a cavalry command may make itself invulnerable to attempted surprise attack by an enemy of any kind, air forces, armored forces, infantry, or artillery. And, after dealing with such situations, our command may resume its march by moving around the enemy or even forward to attack him under favorable circumstances.

Thus, a cavalry command can move toward its des-



tion very boldly. By using the proper security measures, and supplementing them by using proper formations, it is prepared to take care of itself under any circumstances. Even in battle or in delaying actions the same principles can be applied.

It is necessary for every cavalry officer to become air minded and armored force minded. These are the two new branches of the service that have grown so powerful and devastating in their attacks against troops that do not understand them and are unprepared to meet them. A cavalry officer must therefore study them and know their formations, armament, effective ranges, speed, as well as their necessities and limitations and vulnerability to various kinds of fire. He then can make his preparations with foresight and prudence. If he knows what he wants to do, he can train his troops to do it without the consternation, demoralization and panic that so often overtake a body of troops that do not know what to expect or what to do under unforeseen emergencies and surprise. Having determined what the chances are in carrying out his mission, he can make his decisions and proceed with a clear mind and a stout heart.

War is becoming more complex. A cavalry commander must know not only how to deal with hostile air force, armored force, artillery, motorized infantry, marching infantry, and parachute troops, but he must also know how to utilize or coöperate with such forces of our own. Despite the brilliance and power of the war exploits of air forces and armored forces, our cavalryman must understand that cavalry is still able to care for itself and to perform certain important duties and missions better than any other arm. But the cavalryman must note carefully the new inventions and appliances and never underestimate them, while making the necessary adjustments in his own arm and taking the necessary precautions to meet new conditions.

From the battles in defense of Singapore come two other lessons. They are not new. They have been reiterated again and again in these Notes. They are known to our War Department. And yet, I wonder if they are kept constantly in mind and given the importance they deserve.

First, it is noted that the British troops have had to oppose the Japanese tanks by machine gun fire. The British artillery has had too much on its hands in opposing the Japanese infantry to be able to concentrate its attention upon enemy tanks. There were few or no antitank guns. Of course it would have been desirable for the British to have had some armored forces. They didn't have them. It is not always possible to have them available, especially for defensive action. But, and here is the crux of the matter, all ground troops should be considered ill-equipped unless they have a due proportion of antitank units armed with effective antitank guns. No large units of infantry or cavalry should ever go into modern war without these units. To be without them is as bad as to be without ma-

chine guns. The larger the command the larger should be the antitank units. Even the assignment of armored forces to a command will not compensate for the absence of antitank units. Whether an infantry force is sent to defend an island base or to engage in a great offensive campaign, it is not properly equipped unless it has its due proportion of antitank units. And the same may be said of any large cavalry force. Armored force and antitank force have their distinct rôles and neither one can properly substitute for the other. Nothing in our war production and the organization of our armies should be given greater importance or priority.

Second, the use of aircraft in supporting our ground troops closely is as fully important as its use in bombing ships and cities. Twenty years ago, before I ever heard of dive bombers, I wrote on this subject. And I was not the only cavalry officer who thought about it.

It would be easy for anyone who might read these statements to say, "Well, everyone knows that the British in Malaya would have been much better prepared to defend Singapore if they had had a considerable air force and armored force. It is stupid to write these statements now."

But I disagree. I am not referring to air force in general or to armored forces. The two old arms of the service, infantry, and artillery, are doing most of the fighting on every battlefield in this war. (And they would be better off if they had with them large forces of the other older arm, the cavalry.) And my contention is that these older arms ought not to be sent to fight our enemies without the protection given by strong units of antitank guns and the assistance given by dive bombers and fighter planes to oppose the enemy dive bombers. The first of these necessities, antitank units, is the more important until we are thoroughly equipped with everything to fight offensive war, including a large air force. This is true because our dive bombers without the protection of fighter planes would probably be destroyed by superior enemy aircraft. But, antitank guns in large numbers would help us fight a defensive war until we are fully equipped.

The lack of sufficient numbers of antitank guns has been a serious handicap to all the Allied Forces fighting in this war. Adequate numbers of antitank units with all large forces of infantry or cavalry would save our armored forces by relieving them of so many defensive tasks and holding them for offensive operations.

A cavalry force containing antitank units, whose guns are useful also for beach defense against enemy landing boats and other purposes, is much enhanced in value.

Let there be no half measures. Our infantry and cavalry should not be expected to make terrible sacrifices for lack of these accessories while our air forces and armored forces are being built up or going off on independent missions.

Certain persons, both military and civilian, are writing articles for magazines and newspapers purporting



to expound the lessons of the war which are perfectly obvious to everyone. Clever civilian magazine writers attempt to explain to the dull brains of the rest of us the great new developments. A writer for the *Saturday Evening Post* devotes the whole of a lengthy article to the disparagement of the Infantry arm of the service. Referring sarcastically to the old army saying, "The Infantry is the Queen of Battles," he says, "The Queen is Dead." He attempts to prove this by explaining the way in which the Germans used their armored forces and air forces in Europe. But he admits that there is still some use for Infantry. Well then, if there is still some use for infantry, and we all know that Germany, Russia, and everybody else, is still using hundreds of thousands of infantry, why disparage it? Do not those writers realize that such writings tend to lower the morale and spirit of our infantry? What difference does it make that the tanks and the planes have taken the brilliant rôles, if the infantry is still indispensable? Would Germany still maintain nearly three hundred divisions of infantry if she thought it should be disparaged as an arm? Note the fame which has come to the Australian infantry in North Africa, Malaya and elsewhere. Note the world wide admiration that is bestowed upon MacArthur's infantry in the Philippines. Note that the secret of the Japanese successes so far has been overwhelming numbers of infantry landing on beaches and maneuvering through jungles. Give as much credit as you please to tanks and planes which made these infantry operations possible. But do not belittle and disparage the infantry which has done most of the fighting and suffered most of the losses. War is a combination of all of these forces. Each of them merits respect and attention.

Imagine the dismay of fathers and mothers of our young soldiers who have been assigned to the infantry if they read that infantry is of little value. How do you expect that our infantry will have the *esprit de corps*, the zeal, the pride, the interest and the willingness to self sacrifice necessary for victory if every self appointed military expert with a flare for writing belittles, ridicules and disparages the arm of the service to which thousands of our young men must be assigned?

If every arm of the service is indispensable, the relative importance in any campaign of the various branches has no bearing whatever in our military preparations and organization except as to the number of men and arms assigned to those different branches. Let me remind the pseudo-experts again that without detracting one iota from the importance and sensational brilliance of armored forces and planes, the infantry of the armies of friend and foe still constitutes the major portion of their forces. These writers are rendering a distinct disservice to the unity, morale and zeal of our army. It is stupid beyond words for these persons to assume that our professional army officers have not foreseen for years these new developments that have come about in this war. The most important mistakes or failures in foresight

and imagination can be charged not to the officers of the older branches but to the officers of the newer branches such as our air force which refused to recognize the necessity for coöperation between aircraft and ground troops until it was demonstrated by the Germans in France in the campaign of 1940.

Before our mobilization began in the late months of 1940, our army was so small and depleted, by the will of our people, that there was no opportunity to carry out tactical experiments on a truly large scale. Each of the branches of the service had to be maintained as a bare nucleus for the enlargement of the army, should that be necessary. Our present lack of readiness for the critical situation in which we find ourselves is not due in the slightest degree of respect to any fault in the army. It is due entirely and wholly to the attitude of our people, our pacifists and our politicians.

The most important lessons of the war are for those people, not for our army.

With our small and depleted army we had to establish and maintain the principles of training for modern war in all branches of the service, old and new. We could neglect none of them. The new branches, armored force and air force, had to be established and trained without completely sacrificing the older branches. How well we did our work is now being demonstrated. Our air forces and armored forces seem second to none in efficiency.

As far as infantry, artillery and cavalry are concerned, the fighting in the Philippines has demonstrated that our training methods have been first class and up to date. We all knew that the Japanese troops would be found to be well trained and formidable. But, on the island of Luzon, their only superiority over our troops has been their overwhelming numbers. Without this disparity, events have indicated that our troops would have more than held their own. In fact it has been shown that with equal numbers the Japanese would have been badly defeated. This only makes the present situation the more poignant. But it also gives hope for the future.

We do not presume to predict the future of infantry or that of any of the arms of the service, old or new. For all we know, air force may become or already has become the predominating force for war. But we have to take things as they are today. It would be only to betray the trust of our country if we say that we need only the air force and devote all our attention to that arm only. What we do know is that there are millions of infantry and other ground forces in action today. And, therefore, we must have those ground forces and instill into them a belief in themselves and a pride and spirit in this service.

We must have everything, and can neglect nothing. Therefore we must protect every essential element in the army from belittlement or disparagement if we expect it to fight victoriously for our country.



# The Cavalry Replacement Training Center

*By Brigadier General Donald A. Robinson\**

TRAINING, as prescribed at the Cavalry Replacement Training Center, is based on Mobilization Training Program 2-2, War Department, July 22, 1941, as revised by War Department instructions of December 17, 1941, reducing the length of the training period at replacement training centers to eight weeks, with provision for two extra weeks. One of these, immediately preceding the eight week training period, is employed in receiving and processing incoming trainees. The other, immediately following the last week of training, is employed in final processing and in preparing trainees for shipment to the organizations to which they have been assigned. With obvious exceptions, made necessary by reduction of the training period, the number of hours allotted to general subjects, as prescribed in the Mobilization Training Program, is followed.

The mission of the Cavalry Replacement Training Center is to provide basically trained individual soldiers as replacements in all horse and mechanized cavalry units throughout the Army, these replacements to be capable of operating efficiently in garrison or in the field in the organizations to which assigned. Training includes basic training, training in horsemanship, training in motors, and training in weapons.

Basic training includes instruction in the Articles of War, military courtesy and discipline, military sanitation and first aid, care and display of equipment and tent drill, interior guard duty, defense against chemical attack, defense against aircraft and mechanization, hasty shelter and camouflage, dismounted drill, physical training, map reading, dismounted scouting and patrolling, combat training of the squad and platoon, organization of the Army, and inspections.

Training in horsemanship includes equitation, mounted drill of the squad and platoon, mounted scouting and patrolling, combat training of the squad and platoon, mounted pistol marksmanship, marches and bivouac, and care of horses and equipment.

The objective of horsemanship instruction is to qualify horse unit trainees to manage their horses, individually and in ranks, at all gaits, on the drill ground and over varied terrain; to execute all movements of the squad and platoon, including approach formations, combat formations, and the mounted attack; to fire the pistol, mounted, with alacrity and accuracy; to march; and to care for their mounts and equipment under all con-

ditions. Emphasis is placed on quiet and smooth execution of all mounted movements and all work with horses.

Training in motors includes elementary driving, advance driving, vehicular drill, road marches by day and by night, combat, loads and loading, administrative details and dispatching, demonstration of field expedients, and maintenance.

The objective of motors instruction is to qualify motor trainees in the operation and first echelon maintenance of one or more 4-6 wheel military vehicles, motorcycles or tanks. Instruction includes operation of vehicles in military formations and operation of individual vehicles on roads and across country under all conditions of road, terrain and weather.

Training in weapons includes preliminary rifle marksmanship, known distance rifle qualification (Course B), preliminary dismounted pistol marksmanship, dis-



General Robinson

\*Commanding C.R.T.C., Fort Riley, Kansas.





A regimental formation of two squadrons of three troops each showing six of the fifteen horse troops of the C.R.T.C.

mounted pistol qualification, machine gun mechanical training, machine gun preliminary marksmanship, machine gun firing on 1,000 inch range and field targets, antiaircraft firing (miniature range), antimechanized firing (miniature range), combat firing, demonstrations of the 37-mm. gun, caliber .50 machine gun, 81-mm. mortar, and sub-machine gun. Instruction includes the technique of fire of all weapons. In general, the scope of training with weapons follows the procedure prescribed in field manuals.

The objective of weapons instruction is the preparation of the trainee to fire his weapons so as to exploit completely their powers on the battlefield. Rifle instruction includes a thorough course of preliminary training with both the M-1 and Springfield 1903 rifle. Record firing is conducted with the M-1; combat firing with the Springfield 1903. Pistol firing is carried on concurrently with machine gun instruction.

In addition to trainee instruction, the following special courses are conducted within the Cavalry Replacement Training Center: A school for officers who have been assigned to the Cavalry Officer Replacement Pool pending their assignment elsewhere; a school for such enlisted men of the permanent training cadre and for such trainees, on completion of their trainee instruction, as have been tentatively selected for admission to the Cavalry Officers' Candidate School; a school for clerks and a school for cooks. The selection of students for the clerks' and cooks' schools is made from trainees who have completed their trainee instruction and possess special qualifications for further training in these specialties.

The course for Pool officers embraces basic subjects, horsemanship, weapons, and calisthenics. The course for officer candidate prospects embraces general instruction, tactics, and weapons. The course for clerks provides a month's instruction in Army paper work and

other clerical duties. The course for cooks provides a month's supervised practical training in various troop messes, designed to prepare men who are already cooks to fill vacancies as troop cooks in cavalry organizations, thereby supplementing the output of trained cooks furnished by the Cooks and Bakers School at Fort Riley. The need for trained clerks is general, and this Training Center has already furnished such personnel to other arms and branches as well as to our own arm of the service.

The present organization of the Cavalry Replacement Training Center provides a headquarters and headquarters troop, six training squadrons of four troops each, two training squadrons of two troops each, and a special training troop. The eight squadrons are grouped into four regiments. The enlisted personnel of one of the two troop squadrons is composed entirely of colored men. There are two bands: one white, and one colored.

In order to standardize training and insure adherence to prescribed methods and techniques, three functional departments were organized: the Horsemanship Department, the Motors Department, and the Weapons Department, each having its own chief, separate staff and corps of instructors. Under this system, which has fully demonstrated its efficiency, training is conducted by a combination of unit and functional control. Basic training is the responsibility of the training squadrons. Training in horsemanship is conducted by the training squadrons under the supervision of the Horsemanship Department. Training in motors is conducted by instructional personnel of the Motors Department assisted by the training units. Training in weapons is likewise conducted by instructional personnel of the Weapons Department assisted by the training units. The Special Training Troop, referred to in the preceding paragraph, performs the very useful task of relieving the regular



training units of the responsibility of attempting to train the comparatively small number of trainees who, upon being given the classification tests, are found unqualified to undertake the regular course of basic training. These men are assigned to the Special Training Troop under such classifications as: Non-language, illiterate, Grade V, mentally unstable, physically deficient. If their deficiencies cannot be overcome, by academic and other special training, they are processed for discharge under the provisions of Section VIII, AR 615-360.

The Classification Section, operating under its own chief, assisted by trained commissioned and enlisted personnel, performs the indispensable service of classifying all incoming trainees and determining, by questions and tests, the most suitable training assignment for each individual. As far as possible the trainee is given his preference. If he prefers service in horse cavalry, and especially when past employment and experience indicate his suitability, he is assigned to a horse troop. If he prefers service in a mechanized unit, he is assigned to a motor troop, if this assignment is consistent with his qualifications and the needs of the service. The classification process begins with the arrival of the trainee and continues throughout his course of training. The qualification cards received with each shipment of trainees from a reception center are sorted and corrected in the light of the later and more extensive information obtained by the Classification Section regarding each individual. Other information is added as it becomes available. Organization commanders are required to maintain progress charts showing the proficiency of each trainee, and at the end of the second, fourth and sixth weeks of training to furnish the Classification Section individual reports of progress on the forms provided. The Classification Section also gives mechanical and clerical aptitude tests to determine the qualifications of occupational specialists and other personnel for key positions, and the suitability of trainees to receive specialized training on the completion of the regular training period. The system is so thorough that trainees required for special assignments may be readily selected. Furthermore, the commander of any unit, on receiving a detachment of replacements from this training center, may determine the most suitable duty assignment for each individual by consulting the qualification cards which accompany that detachment. If the unit is a motor or mechanized unit the cards contain information as to what type of vehicle each individual is best qualified to handle, and with what weapon he is the most proficient; and equally complete data are furnished on the qualification cards of replacements for horse units.

Training throughout the Cavalry Replacement Training Center is governed by a master schedule. This is based on a 45-hour training week of five 8-hour training days and one 5-hour training day. Each 8-hour training day is divided into a ½-hour calisthenics period

and two 3¾-hour instructional periods allotted equally over the 8-week period to: (1) basic instruction under training squadrons, (2) horsemanship instruction and motor instruction (periods are concurrent), and (3) weapons instruction. All trainees have calisthenics for thirty minutes each morning previous to the start of the first instruction period. Each 3¾-hour instruction period includes three 10-minute rest periods which are utilized as far as possible in giving oral instruction concerning the particular drill or exercise in which the training unit is then engaged. The last ten minutes of an instruction period is intended for movement of squadrons from one training department to another. Saturday mornings are devoted to inspections, lectures, ceremonies and open hours not assigned to specific subjects. Units in rotation stand retreat, or hold a retreat parade, daily, except on Saturdays, Sundays and holidays, throughout the 8-week training period. Units not attending retreat or parade have supervised mass athletics. On Friday evenings all squadrons are assembled for a combination retreat parade and dismounted review.

Weekly schedules, based on the master schedule, are prepared by the department chiefs for training activities under their supervision, and by squadron commanders for their respective troops. These are submitted to S-3, Headquarters Cavalry Replacement Training Center, ten days prior to the week involved. No deviation from weekly schedules is made without authority of this headquarters. All schedules are coordinated by S-3. Bands attend dismounted drill periods, except in inclement weather, in which case a drum corps is substituted. The two bands alternate in attending retreat parade and other dismounted and mounted ceremonies.

From the very beginning of his training, each trainee is carefully instructed in the required standards as regards posture, cleanliness, neatness, dress and soldierly deportment, and is then held to these standards by vigilant inspection, continual instruction and repeated correction, until compliance has become a habit. The same thoroughness is applied to every element of his training. Correct execution is insisted upon from the beginning. Mistakes and faulty execution are not passed over for correction at some future time, but are concentrated upon at once, the exercise being repeated until satisfactory performance is attained. Instructional personnel, in their dress, appearance and deportment, are expected to adhere to high standards and thereby serve as an example to trainees. Calm and orderly instruction is required. Noisy corrections and the "bawling out" of individuals undergoing training are prohibited. The high level of intelligence of our trainees, their interest in learning their jobs, their response to instruction, and the splendid spirit manifested by them, both at work and at play, are very impressive. Many trainees in each incoming increment possess educational and other qualifications for officer material, and many others will eventually become excellent noncommis-



sioned officers. From these groups the required number of temporary corporals are appointed to serve as squad leaders in trainee squads; and in these groups, of course, are found the men best qualified to fill the C.R.T.C. quota in the Cavalry Officers' Candidate School.

The physical plant of this training center consists of several hundred buildings and installations of standard types, providing housing and facilities for personnel, animals and equipment, and for the training, administrative and recreational activities of the command. The installation was admirably planned and constructed along functional lines. This permits each department to operate without interfering with the others, and enables units to move without interference from one activity to another. Each department controls its own administrative buildings, training facilities, and storage space for departmental equipment. For example, the Horsemanship Department is in charge of all animals, stables, saddlerooms, shoeing shops, riding rings, riding tracks and mounted drill grounds; and all stable crews operate under its direction. Stable management is standardized throughout the thirty-three stables. The target ranges, operated under direction of the Weapons Department, provide facilities for instructing two thousand men at one time in firing the rifle, pistol and machine gun.

The troop messes are efficiently conducted under the general supervision of the C.R.T.C. mess officer who requisitions the necessary supplies and makes distribution to the troops from a storehouse serving as a central distributing point. The officers' messes are also conducted under the supervision of this officer, the accounts being kept in his office from which the officers are billed for their board at the end of each month. The menus for all messes are excellent and the food is plentiful and well prepared.

Recreational facilities consist of an officers' club, conducted as a branch of the parent club at Fort Riley; a noncommissioned officers' club; two service clubs, one for white and one for colored soldiers; a recreation hall for each squadron; and the War Department Theater, in addition to which two service clubs, one for white and one for colored soldiers, are operated under civilian auspices in nearby Junction City. Each of the Training Center service clubs has a cafeteria, writing room, reading room and library, and is equipped with radio and "juke box." Dances for colored soldiers are generally

held in the colored service club in Junction City. Dances for white soldiers are held once a week in the large main room of their Training Center service club, all departments of which are efficiently conducted by a capable staff of hostesses. Music for dances is furnished by two Training Center orchestras, one white and one colored. Girls from the surrounding communities are invited to these dances and they attend them in large numbers, accompanied by their chaperones. Floor shows, talent shows and radio broadcasts are periodically staged by trainee personnel, many of whom are professional entertainers.

Football, baseball and basketball teams are organized in season; and it is generally possible for the Training Center to produce at least one outstanding team in each of these sports, as well as a strong string of boxers. Troop, inter-troop, and squadron contests bring the best players to the front and these enter the "all-star" teams to represent the Training Center against outside opponents.

A closer view of the activities of the Motors, Weapons and Horsemanship Departments of the Cavalry Replacement Training Center may be obtained from separate articles written by the chiefs of these departments for this issue of *The Cavalry Journal*. (pp. 57-65 incl.)

At this time there are present in this training center 353 officers and 7,873 enlisted men; aggregate strength 8,226. Of the officer personnel, 207 are regularly assigned to duty with the training center, and 146 are assigned to the Cavalry Officer Replacement Pool. Of the enlisted personnel, 1,175 are members of the permanent instructional and administrative cadre, and 6,698 are trainees undergoing instruction.

The training center has been in operation about one year. The first trainees began arriving on March 15, 1941. When training of the last group of the present increment is completed on April 4, 1942, and that group has been shipped to designated organizations, this training center will have furnished the cavalry service in general and the Army at large with 21,377 trained replacements.

That the mission of this installation has been satisfactorily performed from its beginning, and that the high standards established at that time have been successfully maintained, are evident from the continued high quality of the product.



## Discipline

After the organization of troops, military discipline is the first matter that presents itself. It is the soul of armies. If it is not established with wisdom and maintained with unshakable resolution, you will have no soldiers. Regiments and armies will be only contemptible, armed mobs, more dangerous to their own country than to the enemy.

—MARSHAL SAXE.



# Motors Department, C.R.T.C.

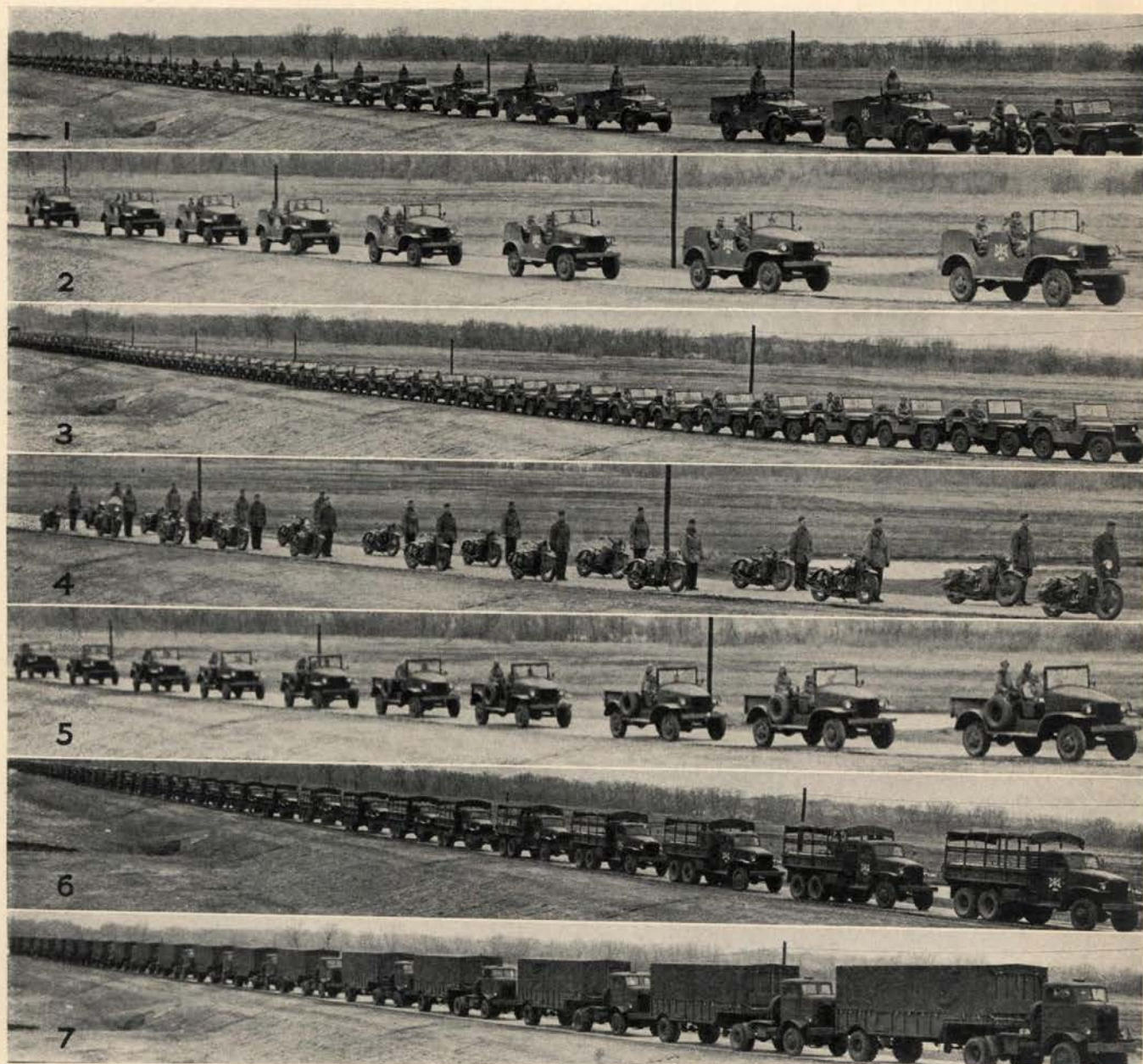
*By Major Roland A. Browne, Cavalry\**

THE primary mission of the Motors Department is to train drivers, specializing in the operation and maintenance of a particular motor vehicle. The secondary mission is the dispatching and operation of administrative vehicles for the supply and transportation of the C.R.T.C. and the maintenance and repair of all vehicles.

The Motors Department was first activated in Feb-

\*Department Chief.

ruary of 1941, under the command of Lt. Col. H. G. Holt. The officers assigned to the department at this time were Captain S. D. Slaughter, S-4, Lieutenant J. R. Degenhardt, Maintenance Officer, and Lieutenant R. E. Smart, Jr., Adjutant. The first month was spent in setting up the organization of the department, requisitioning supplies and equipment, and formulating policies and training plans. In March, the buildings of the C.R.T.C. were partially completed, and the staff moved from Camp Whitside to Republican Flats. This



Instructors and motor trainees: 1—With scout cars. 2—With command reconnaissance cars  $\frac{1}{2}$ -ton, 4x4. 3—With bantams and scout cars. 4—With motorcycles. 5—With weapons carriers,  $\frac{1}{2}$ -ton, 4x4. 6—With cargo trucks,  $2\frac{1}{2}$ -ton, 6x6. 7—With semi-trailers. (Cavalry Portée.)



completed the groundwork for the training of men to drive Cavalry mechanized equipment.

Shortly thereafter, twenty-four M-1 Scout Cars were received from the 4th Cavalry. Soon after, there arrived six GMC 2½-ton stake body trucks and six Chevrolet passenger cars. These were followed by thirty-one 2½-ton GMC cargo trucks.

Officers were next assigned to the department. The task of organizing the lessons and instructional material was started. The first schedule called for instruction in scout cars and trucks. This schedule received its test run in the training of the cadre of the Motors Department and the noncommissioned officers of the motors squadrons. In this manner, the Motors Department of the C.R.T.C. "started 'em rolling."

In February of 1942, twelve short months later, many changes have occurred. The department consists of twenty officers and one hundred nine enlisted men. Now, the selectees are receiving training on nine different types of vehicles.

The training is carried out in six divisions, each containing one type of vehicle, or vehicles of several types with characteristics so nearly alike that they can be grouped together for training purposes.

The present organization of the department is as follows:

<i>Division</i>	<i>Officers</i>	<i>N.C.O.'s.</i>	<i>Vehicles</i>
Hq.	Maj. R. A. Browne, C.O. Maj. B. F. Stahl, Exec. Capt. M. D. Losey, Adj. Capt. J. R. Degenhardt, S-3 Capt. F. C. Welliver, S-4 Lt. J. J. Marron, Det. C.O.	3	
Trucks	Lt. H. E. Wright Lt. W. A. Bownds	17	64
Bantams	Lt. T. E. Jarman Lt. R. C. Barry	16	57
Semi-Trailers	Capt. A. W. Johnson Lt. R. D. Mansfield	15	29
Scout Cars	Lt. C. W. Ogelsby Lt. R. E. Smart	10	43 (28M3) (15M1)
Motorcycles	Lt. G. H. Riser	5	24
Tanks	Lt. T. F. Ruane Lt. A. S. Peck Lt. D. C. Christiansen	3	4
Transportation	Lt. M. E. Church	66*	61

The motor squadrons at the C.R.T.C. are organized on the basis of four troops to the squadron. In each of two daily periods one motor squadron receives motors training for a period of three and three-quarter hours.

The Classification Section assigns selectees to the motor troops, according to their experience with motor vehicles in civilian life. Each motors trainee must pass the standard motor vehicle operator aptitude test. Troop "A" receives those men who have driven passenger cars

and taxi-cabs; these men receive bantam instruction. Troop "B" consists of those men who have driven pickups and light trucks; they are trained by the scout car division. Troop "C" is assigned men who have driven heavy trucks; they are trained to drive the 2½-ton cargo trucks. Troop "D" is a mixed troop, consisting of semi-trailer drivers, motorcycle riders, and caterpillar tractor drivers; they are trained on semi-trailers, motorcycles, and tanks.

When the men arrive at the motor park for their first period of instruction they are assigned to a particular vehicle. The original plans were to assign four men to the vehicle. Due to the shortage of vehicles the number of men to a vehicle runs as high as eight in some of the divisions.

At the end of the second week, outstanding selectees are picked to act as car commanders and assistant instructors on each vehicle.

A corporal instructor is assigned to a platoon of three to five vehicles. He oversees the work of his assistant instructors. During the early training he is responsible for most of the actual instruction.

Three to four platoons are combined together to form a section, which is commanded by a lieutenant, assisted by a line sergeant. Three to four sections are then combined together to form a division.

In addition to the corporal's duty as an instructor, he is also responsible for the rating of the men of his platoon. The corporal instructor rides with each man in his platoon at least once a week, and rates the man at this time. To give the training car commander additional responsibility, he is required to rate each man of his crew each day. The corporal then has a check, both on the car commander and the crew. In addition to these two checks, the section commander and the section sergeant make their personal ratings of drivers, selected at random. This rating in turn serves as a check on both the corporal instructors and the car commanders.

The training schedule is divided into two major parts; namely, primary and secondary driving. At the present time, each man drives from three quarters of an hour to an hour each day.

Primary driving starts with instruction in the function and nomenclature of the major portions of the particular vehicle. The men are told and shown how each major unit operates to result in a smooth running vehicle.

The next subject taken up includes inspections and maintenance. From this time until the course is completed, daily inspections and maintenance review are carried out. Attention is called to mechanical failures during training. Their cause is determined. Prevention is stressed. At least once a week each vehicle is completely checked by the car crew. This check includes chassis lubrication, battery inspection, cleaning of air filters, tire checking, washing, tightening. Oil is changed as required.

The men are then taught to feel out the gears in the

\*64 enlisted drivers.



transmission with the transfer case in neutral. This allows them to locate all of the gears, and to practice double clutching, without looking at the controls of a moving vehicle.

They next progress to a large circle, where driving habits and the shifting of gears can be checked and errors corrected. This type of driving is very helpful in familiarizing the men with the particular vehicle. At the same time the instructors check the progress of their men.

During the mounted instruction, one half of the men are dismounted from the vehicles. They receive instruction on safety precautions, road rules and traffic regulations, trip tickets, accident reports, convoy regulations, arm signals, cross country and night driving. The dismounted instruction keeps ahead of the mounted instruction. The men know what is expected of them as their training progresses. These groups are shifted each period. All men receive both types of instruction.

The advance driving begins with a closed column on improved road. The men are observed and errors corrected. As the drivers improve and learn to know their

vehicle, they move at more extended distances and onto secondary roads, unimproved roads, and finally to cross country driving over difficult terrain.

The men are given map problems, in which they are allowed to pick their own route between two given points, usually over a road net that they have not traveled before. This trains them to pick routes that are most adapted to their type of vehicle and its tactical employment.

Finally the men are given experience in night marches. They are started with lights on improved roads, then with blackout lights, both on roads and cross country.

Selected men who claim to be, or are classified as mechanics, are also tried out in the maintenance shops. They work under the supervision of the shop mechanics, and the best of them are rated by the department as mechanics.

The Motors Department is planning for a large increase in personnel and vehicles in the near future. The present plans call for a large increase in motors training, which will necessitate more than doubling the present organization.

# Weapons Department, C. R. T. C.

*By Major Fred T. Manross, Cavalry\**

THE present organization of the Weapons Department includes a department chief, Executive officer, plans and training officer, adjutant and detachment commander, supply officer, range officer, two section chiefs, and nine commissioned instructors, two of whom are also on duty with the Departmental Detachment. The latter is organized into nine instructional groups in order to cover the instruction of nine troops at a time. The Detachment also includes headquarters, matériel, supply and range sections. Each instructional group consists of one lieutenant instructor commanding, a staff sergeant, and four to five enlisted instructors. For the purposes of control and supervision of training and range practice the instructional groups are further organized or integrated into two sections of five and four groups respectively. Each section is commanded by a captain section chief. The training and range practice for both sections is controlled and supervised by the Department Chief through the Executive Officer. This organization has worked well and has produced uniform results. The two section system has proven itself of further advantage in conducting concurrent pistol and machine gun instruction, in that one section conducts pistol instruction while the second conducts machine gun instruction. At the completion of the sched-

uled instruction prescribed for each weapon, including range practice, equipment and weapons are exchanged and instruction reversed between sections.

The Supply Officer, Lieutenant Abner C. Hutcherson, and his two assistants, Master Sergeant Roscoe R. Grider and Staff Sergeant Marshall A. Tubbs, have rendered admirable services in matters of supply and the care and upkeep of matériel which has been maintained in efficient operating condition regardless of weather and long hours.

An ingenious device developed by Lieutenant Hutcherson is the present method of brass inspection. Heretofore the inspection of empty brass for live rounds, live primers or extraneous materials before shipment to the Ordnance has been a big problem because the Department uses a truck-load of ammunition every day. Many different methods of racking brass for inspection were tried before the present method was developed. It enables brass inspection to keep ahead of firing. The present racks are as shown in the accompanying photograph and are designed as follows:

Two 12" boards, 8 feet in length, are fitted together the same as an eave on a house to form a rack with two sides. There is a 3" board on the bottom of each side, and at both ends of each side there is an

\*Department Chief.



8" trap door. Below the trap doors are troughs through which empty cases pass after inspection. The racks are set upon four legs, the height being such that one need not bend over nor reach while working. Each rack will hold five boxes of empty cases and

twelve men working on two racks can put out ten boxes in one hour without difficulty.

The Range Section in conjunction with the Post Range Officer operates and services all ranges used by the Training Center, and has, at times, serviced them for the Cavalry School and other organizations. To give some idea of the magnitude of the task, the firing line, when on the rifle range, is over one-half mile long. The various pistol groups, due to intervening aircraft and MG 1,000" ranges, are spread over a line nearly a mile long. The rifle range is an enlargement of the old National Rifle Range from 100 targets to 225 targets. Plans are being made at the present time for an additional 25 targets, making a total of 250 targets. All known distance rifle firing is conducted on this range from the 200 and 300 yard firing points as well as long range machine gun practice from the 500 yard firing point. The range, together with the area west to Milford Gate, is used for rifle combat firing. The Governor Harvey Moving Target Range which is, in part, superimposed on the eastern flank of the National Rifle Range, is used for moving target firing with the machine gun. Most of this firing is done at 500 yards. The pistol ranges consist of five groups of thirty targets each, extending from Republican Point east along Sherman Heights to the Hippodrome. Near Republican Point, and between two of the pistol groups, is a newly constructed double antiaircraft range. To the east and superimposed on two of the pistol groups is the Landscape Range used in conjunction with instruction in the technique of rifle fire. Between the two easternmost pistol groups are the 1,000" machine gun and 1,000" antitank ranges. Field firing with the machine guns is conducted on the high ground to the north of Breakneck Canyon. There, a new field range has been laid out with an excellent field of fire. Plans are under way for class B and moving target ranges in this area. It is also proposed to consolidate the pistol, machine gun and antitank ranges along Sherman Heights into separate areas and thus simplify matters of control and servicing. The range section, under Captain Howard H. Ruppert (Range Officer), assisted by Staff Sergeant John Palonis, has done an admirable job in keeping all ranges in fine shape and serviced under all weather conditions.

In conclusion, weapons training has proven intensely interesting, and the reaction of the trainees most encouraging. They show a great deal of interest in the M-1 rifle.

In addition to scheduled training, the Department has conducted several equipment and firing tests for the Cavalry Board. If any part of weapons training can be selected as the most important in the entire train-



1—Loading, portable machine-gun racks. 2—Brass salvage. 3—Detachment mess. 4—Detachment barracks.





National Rifle Range scenes: 1 and 2—Instruction practice. 3—Rapid fire; watching for the targets to appear. 4—Machine-gun instruction.

ing period, it is the first week on the rifle range. The habits of correct shooting and fire discipline inculcated there remain with the trainee throughout the rest of his weapons training. And the hardest part of that week

(Kansas weather and winds notwithstanding) is making the coach watch his man and not the target. Good coaching produces good shots and good shots high qualifications.



# Horsemanship Department, C. R.T. C.

*By Lieutenant Colonel E. M. Burnett, Cavalry\**

THE Cavalry Replacement Training Center is approaching its first birthday! We recently have received our fourth increment of trainees. The Cavalry may wish to know what experience, thus far, has taught us with respect to training our future cavalymen in horsemanship.

## THE PROBLEM:

Our energies are directed largely, as would be expected, to establishing a uniform and high quality of performance in such horsemanship subjects as are covered, and to constantly increasing the amount of time in the saddle. In this connection we are forced to consider that:

1. Only approximately 20 per cent of the men who come to us have ridden or worked with horses. This, of course, varies considerably between troops and platoons, and even among squadrons, depending upon the section of the country from which the predominant number of trainees come. It is no doubt realized that most of those who may know how to ride must be re-taught in order to acquire the military seat.

2. While the average intelligence is high, there is a wide range of variation in intelligence schooling and aptitude.

3. For reasons of sound economy, we have planned for three men to each horse.

4. In order to reduce the overhead to a minimum and to utilize to the greatest extent the specialization of the departments, the number of instructors organic in the troops is small. Each troop of two hundred and twenty men has as its regular instructor complement of four officers including the troop commander; four sergeants and four corporals. This means that the platoons (three squads) are directly instructed and supervised by a sergeant or a corporal.

5. With five troops (forty platoons) riding at one time, we must assign to the many platoons sufficient training area near the stables to utilize the time allotted to the best advantage.

6. We must make plans to carry on effectively the training as scheduled, despite the extremes of cold and hot weather, heavy snow and severe rains, accompanied by high winds, which are characteristic of Kansas.

## RECENT CHANGES:

The training of the current increment (the fourth) is accompanied by two major changes. The course of instruction has been reduced to eight weeks, and the training periods have been changed from three of 2½-hours each per day to two of 3¾-hours. This lengthening of the training period saves a good portion of the time

formerly consumed in moving to and from the stables, in grooming, in getting started and getting ready to leave, with the result that more time is spent in the saddle.

To complete the picture of the general plan of training, instruction of the men assigned to horse troops, of which there are fifteen, is divided among one third horsemanship, one third weapons, and one third basic (dismounted) subjects. As a rule, two of these three divisions of instruction are covered each day. Therefore, in horsemanship, training is received by horse troops three or four days per week, and the Horsemanship Department is involved daily in the training of two of the three "groups" of five troops.

## FUNCTIONAL TRAINING:

Horsemanship training during the first increment was carried on along functional lines. At the beginning of the second increment, in the search for improvement, instructors of the Horsemanship Department were transferred to the training troops, and instruction in horsemanship was conducted by the troop officers and cadres. The instruction was planned, coordinated and supervised by the Horsemanship Department.

Special schools, classes and demonstrations, some during, but many out of training hours, have been used in an attempt to produce a uniform and high standard of performance and instruction on the part of troop officers and cadre personnel. There is, however, under this system a considerable time lag in securing correction of errors and changes in methods of instruction where the need for improvement is indicated. Consequently, during the third and fourth increment, ten lieutenants of the Horsemanship Department were attached to the horse troops to assist in their training. Two of these officers are assigned to each troop when scheduled for training in horsemanship.

## SHORT CUTS:

Many short cuts have been developed to utilize most effectively the limited time available and to further increase the amount of time in the saddle. For example:

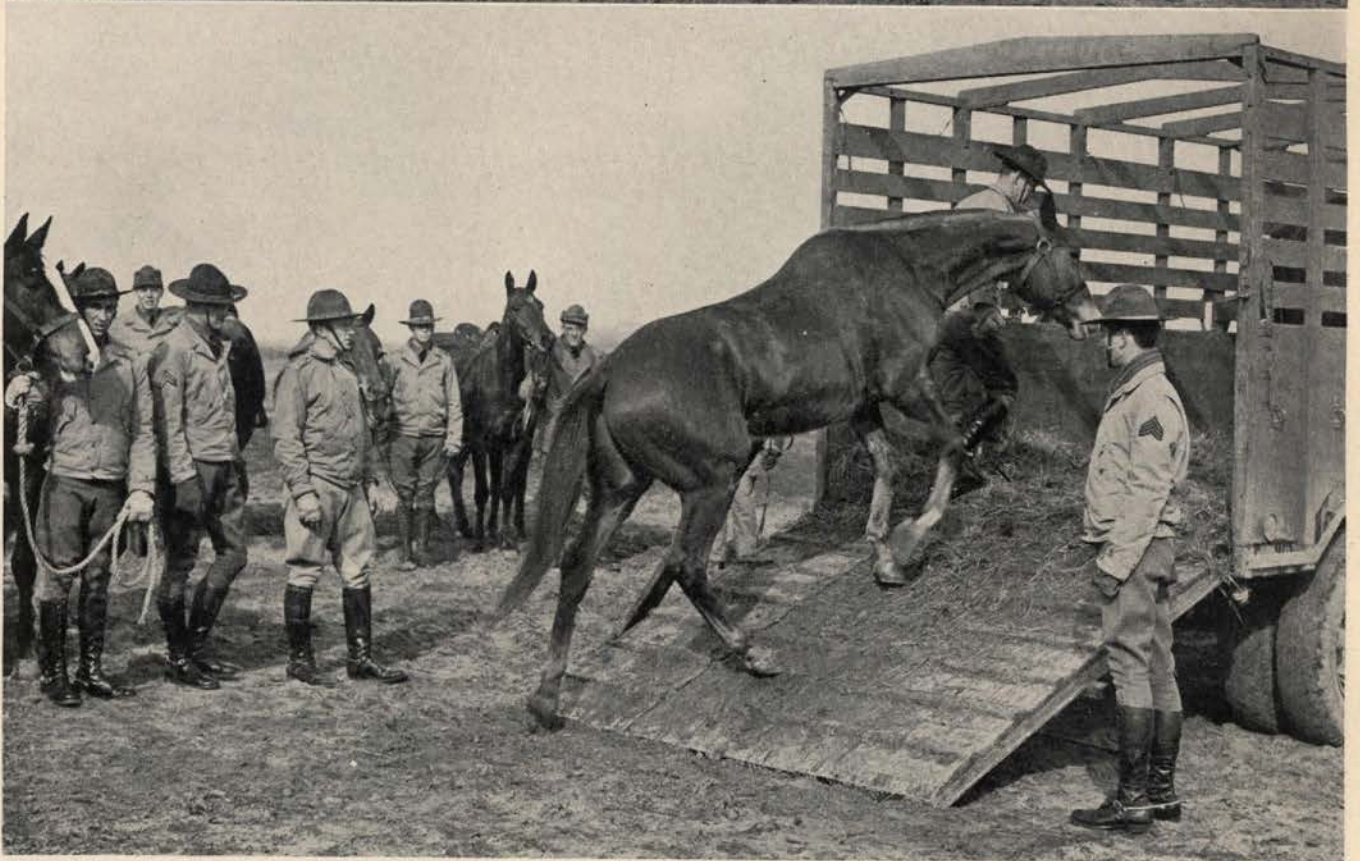
1. Moving to and from the drill areas (each platoon is assigned to a specified area and route) calisthenics, and close and extended order drill are practiced.

2. Instruction in horsemanship and the theory of horsemanship is given during rest periods by means of brief discussions and demonstrations in platoon groups.

3. Mounted pistol targets have been erected along one side of the rectangular track in each platoon drill area. During equitation periods, as each trooper passes the targets, on either hand, he discontinues the exercise, takes the reins in the left hand and thrusts at the targets.

\*Department Chief.





*Top:* Continuous exercise found most effective in basic equitation is work by threes . . . merely riding in column is avoided as much as possible. *Bottom:* Portée demonstration.

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INSTRUCTIONAL SHORT-CUTS INCREASE TIME SPENT IN SADDLE

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Consequently, when the time comes actually to fire the pistol, the technique of firing will have been sufficiently established through this habitual practice. It will then only be necessary to take up the safety precautions prior to going on the range.

4. Familiarity with hand signals is facilitated by having the men execute them on command as a part of mounted calisthenics.

5. Riding and mounted drill are taken up in the first lesson! This seemingly ambitious feat is accomplished by having a man on the ground lead a mounted man's horse. Instead of the usual riding (or rather leading) in a circle, mounted drill movements are used in the exercise. In addition to teaching mounted drill from the start, this procedure causes the recruit to relax through having something other than his horse to think about.

6. The equitation movements used are such that, once set in motion, they are continuous, permitting the instructor to concentrate on making corrections and relieving him of the necessity of constantly giving commands. In addition, the necessity of guiding his mount and maintaining some sort of formation appears to encourage the young soldier to relax. The continuous exercises found to be most effective are movements by threes, alternate track and circle, and serpentine. Merely riding in column of troopers on the track is avoided as much as possible.

7. It has been found that green riders make faster progress, and that the instructors' work is facilitated, if the trot is reduced from the prescribed 9 to 8 miles per hour. A fast trot makes it almost impossible for the recruit, in his early stages of training, to handle his mount in anything like the desired manner. If the trot is slowed to the 8 mile rate, correct performance increases very rapidly. Lack of knowledge of the correct rate for all gaits has been observed among noncommissioned officer and officer instructors. To remedy this, and to fix the 8 mile trot, five 1-mile gaiting courses, and a test course, have been laid out on the drill area.

8. Pack demonstrations have been eliminated. Instead, one pack and pack horse accompany each of the eight platoons of the troop during all mounted work. Every man has an opportunity to saddle, unsaddle, and handle the pack animal, and all constantly observe the use of this animal and his equipment.

#### STABLE MANAGEMENT:

There are in use at the Cavalry Replacement Training Center thirty-three stables, with adjoining corrals, to house sixteen hundred horses. In addition, there are eight shoeing shops. The management of the stables is the responsibility of the Horsemanship Department.

The physical set up of the stables is uniform throughout with respect to the location of saddle rooms, grain and hay rooms, etc., and the arrangement of equipment is also uniform for all stables. In each saddle room there is the same number of pegs in the same order on

the same wall; the gun-boot racks, cleaning kit boxes, the Phillips pack saddles are in the same place; forage charts, shoeing records, fire fighting equipment, signs, trash cans, tools are uniform and uniformly placed; stalls are uniformly located and numbered; draft horses are in similar stalls.

The thirty-three stables are divided, for administration, into six stable divisions, five "operating" divisions and a Headquarters, Staff and remount division. Each is in charge of an officer as stable division commander. Within an operating division there are three stable units of two stables each. These stables are in column and are commonly referred to as the front and back stable. The stable units contain one hundred and four horses and are under the direct supervision of a stable sergeant who has, as assistants, one stable orderly, a teamster and a daily detail of six stable police from the horse troops.

An interesting feature of the stable division organization is that all the sick, out of condition, and difficult horses, as well as the officers' mounts, are placed in one stable, the front stable of the center unit. Consequently, all the horses in two units (104 riding horses each) and one stable (center rear, 50 horses) of each division are, at all times, available for duty.

The stable division organization is also coordinated with the assignment of training troops. Each of the five troops composing a "group" is assigned to a stable division. Within the troops a uniform assignment of platoons to stables is made.

Originally a horseshoer and saddler were assigned as members of each stable unit crew, but experience has indicated the desirability of centralizing both of these activities.

Reduction of the number of horses on sick report has been a major objective of our stable management. An average of only sixty-four horses have been on sick report daily. Close cooperation with the Veterinary Officer, analyses of the causes of sickness, daily sunning of blankets, constant supervision of feeding, and prompt preventive measures have accounted for this good record.

A simple device which is believed to contribute to the reduction of the sick list is the installation of a back bar in the stalls. The effect of this is to produce a narrow box which permits not only freedom of movement but serves as a rest for the saddle during instruction in, and routine cleaning of, equipment. A valuable by-product of the use of back bars is a considerable saving in halter shanks.

#### SPECIALIST TESTING:

In addition to training in horsemanship and the upkeep of the horses and stables, the testing of specialists is an important and valuable activity of the Horsemanship Department. Men with general classification test scores and aptitudes, which indicate that they can absorb instruction and acquire new techniques, and who



express or indicate an interest in activities of the Horsemanship Department, as determined by the Classification Section of the C.R.T.C. Headquarters, are sent to us for a week's testing after they have completed at least two weeks of training. After the test period they are returned to their troops to continue their basic training. The jobs included in the testing process are saddler, horseshoer, stable orderly, teamster, remount trainer, cook, and clerk. The objective is to determine whether a man demonstrates sufficient ability to absorb instruction and take interest in the activity in which he is being tested to warrant his being sent to a specialist school on completion of his course of basic cavalry instruction.

#### SPECIAL SCHOOLS:

In addition to cadre schools which are held after recall from drill, various other instruction is given in horsemanship and horsemastership.

Officers assigned to the Cavalry Officer Replacement Pool are given a short refresher course in such subjects as horsemanship, close and extended order drill, pistol marksmanship and stable management.

One officer and one noncommissioned officer from each horse troop attend daily, a course designed to increase their efficiency as instructors in the subjects taught in horsemanship instruction.

From time to time short courses in horsemanship are held for the benefit of enlisted men prior to enrollment as officer candidates.

In addition, schools for the further instruction of specialists, such as horseshoers, saddlers, teamsters, packers, and remount trainers are found desirable.

#### MOUNTED SPORTS:

Mounted sports for men in training and for non-commissioned officers and officers, are encouraged. Cross country riding, mounted wrestling, broom stick polo, gymkhanas, informal horse shows, and gaiting contests are established activities when weather and time permit.

After passing a test in horsemanship and horsemastership, qualified enlisted men, (noncommissioned officers and men in training) are issued mounted passes. These permit the holder to ride alone, or in groups, for pleasure during off-duty hours.

#### CONCLUSION:

We believe that we have a workable set up for horsemanship instruction at the C.R.T.C. and are clear as to the lines along which we should proceed. At the same time we are looking for further short cuts and economies in order to put over our instruction in the most effective manner and increase the time spent in the saddle.

CARDED

## March Schedules

*By Lieutenant Colonel B. F. Hoge, Cavalry*

MARCH RATE formulas and march schedules of a complicated nature appear every now and then in our textbooks and in our JOURNAL. Some commands have march tables printed and issued on small cards to the personnel. My objection to these methods is that they are unduly complicated, cannot be remembered, and the cards are soon lost, worn out or destroyed by rain and sweat. The method I wish to recommend is as follows:

Divide each hour to be marched into ten-minute periods. During each of the first five of these periods, walk 5 and trot 5, or walk 4 and trot 6, or walk 3 and trot 7, depending upon the rate of speed it is desired to march. During the last ten minutes of the hour lead 5 and halt 5. If a nine-mile trot is used the following rates of march will result:

5-5 schedule equals  $5\frac{1}{2}$  miles per hour.

4-6 schedule equals 6 miles per hour.

3-7 schedule equals  $6\frac{1}{2}$  miles per hour.

If an eight-mile trot is used each of the above rates will be reduced by one-half mile per hour. The above-quoted rates are not exact, but near enough so for all practical purposes. To memorize the above, it is only necessary to remember one set of figures, namely that the 4-6 schedule at 9 miles per hour gives a rate of six

miles per hour, and that an increase or decrease of one minute of trotting causes an increase or decrease of rate by one-half mile per hour. Also, that an eight-mile trot reduces the rate by one-half mile per hour.

The above system has several advantages:

a. It is simple and can be remembered by all ranks.

b. It is flexible, because any one period of ten minutes can be broken into fractions, if terrain conditions make it necessary. Thus the 4-6 period can be changed to two 2-3 periods to fit the ground.

c. By starting the march when the minute hand is on one of the large number figures on the watch face it is comparatively easy to keep time accurately and avoid confusion.

d. Prior to start of march, the command can be notified of the schedule to be followed as, "We will march on a 4-6 schedule." Every one then knows exactly how the march is going to be made.

e. It provides for frequent changes of gait and the normal amount of leading.

f. A command trained to this system in daylight will march smoothly at night, because all soon learn what is coming next.

g. It obviates the need for a timekeeper, and keeps the command up to the rate desired because this rate is checked each ten minutes.



# Loading Horses in Portée Trailer

*By Lieutenant Stanley Archenhold, 2nd Cavalry*

SINCE many of our horse cavalry regiments are now receiving portée trailers, a system of loading and unloading which has been developed in The 2d Cavalry might be welcomed.

## LOADING—

*a. Unsaddling and Formation*—The squad should unsaddle and unbridle in rear of the trailer and place its equipment on the ground where it will not be in the way while loading. The squad then forms in column of fours in rear of the trailer. Both sets of fours then turn their horses over to their respective no. 3's.

*b. Duties of members of squad*—Under the direction of the corporal, as many men as are necessary lower the rear doors.

(1) *Corporal*. As soon as the rear doors are lowered, the corporal makes a careful inspection of the trailer to check the following:

(a) No projections, nails, etc., on inside of vehicle.

(b) All pins are present for doors, breast and tail bars.

(c) All mats are in place where wheel slots project into trailer.

(d) Side door in rear of trailer is closed and securely fastened.

(e) Front breast bar is in place and properly fastened.

He then causes No. 1 and No. 2 of the second set of fours to take a position on the left side of the ramp and No. 4 on the right side. He directs the first set of fours to return and take their horses.

(2) *First Set of Fours*—No. 1 followed by No. 2 lead their horses into the trailer. No. 1 ties both horses to the breast bar on the right side. No. 2 returns to the rear of the trailer. No. 1 remains inside. No. 4 leads his horse in and turns it over to No. 1 who ties it on the left side of the trailer. No. 4 returns to rear of trailer. No. 3 leads his horse up the ramp and passes the halter shank up to No. 1 who ties the horse in between No. 2 and No. 4. No. 1 leaves trailer by front side door. No. 3 leaves by rear door, goes to front door of trailer, enters, and remains with horses of first set of fours. No. 3 horse is followed immediately by No. 2 and No. 4 with the tail bar. No. 1 and No. 4 from second set of fours move to sides of trailer and place pins in tail bar as soon as it is in position. No. 1 brings in the breast bar for the second set of fours and assisted by No. 2 and No. 4 places it in position. No. 1 and No. 4 from second set of fours remain on sides of trailer and place pins in breast bar.

(3) *Second Set of Fours*—No 1, 2 and 4 first set of fours replace No. 1, 2 and 4 second set of fours along side of ramp. Second set of fours return, take their horses and follow same procedure as first set of fours. The corporal (using as many men as are necessary) supervises the raising and securing of the rear doors.

*c. Equipment*—No. 3 of both sets of fours remain in the trailer after their horses are loaded. As soon as all horses are loaded, the remainder of men get their equipment and pass it through the front side door to No. 3 of the first set of fours. No. 2 of both sets of fours returns and gets the equipment of their corresponding No. 3.

*d. Personnel*—All men except No. 3 of second set of fours and the corporal ride in same compartment with the saddle equipment. No. 3 of the second set of fours remains in aisleway between horses. The corporal makes a final inspection of his loaded vehicle and rides in the cab with the driver unless otherwise directed.

## UNLOADING—

*a. Saddle Equipment*—Saddle equipment is unloaded in the same manner in which it was loaded. It is placed in rear of the trailer in such a place that it will not be in the way while unloading animals.

*b. Animals.*

(1) *General*—Men enter the trailer to untie their horses by means of the side doors. To prevent injury while unloading the first set of fours, it is *extremely important* that the rear side door be fastened and remain so from the time the front tail bar is removed until the last horse is out of the trailer. Of the three methods that follow, the first is believed to be the most satisfactory.

(2) *First Method*—The No.'s 1, 2 and 4 of the first set of fours take position as when loading. The tail bar is removed. No. 3 followed by No. 2 of the second set of fours unties his horse and backs him down the ramp. No. 1 followed by No. 4 then unties his horse, turns him around in the trailer and leads him down the ramp. No.'s 1, 2 and 4 then turn their horses over to No. 3 and return to the trailer to assist the first set of fours. The breast bar of second set of fours and tail bar of first set of fours are then removed. Horses of the first set of fours are untied and backed out until they can be turned around and are then led out of the trailer. The corporal then checks the trailer to see that all breast and tail bars are replaced in the trailer and that all doors are closed and securely fastened.







(3) *Second Method*—This method differs only in that the second set of fours backs the No. 3 horse out of the trailer, then takes down the breast bar and does a threes left about and lead out of the trailer. If this method is used, the rear side door *must* be closed and fastened before the breast bar is removed.

(4) *Third Method*—This method differs from the first in that the second set of fours leave the tail bar up. No. 3 unties the horses, pushes the breast bar to the left and executes a fours left about. They then remove the tail bar and lead the horses out of the trailer one at a time. The rear side door *must* be closed and fastened before the breast bar is removed.

#### EXPEDIENTS—

a. A latrine screen or the blankets of the squad may be used to load bad horses. The horse is led up to the ramp. Then the remainder of the squad, holding the canvas above their heads, encircle the horse, bringing the ends around the ramp and up to the trailer. Then they slowly close in on the horse. It is important that the canvas be of such a height that the horse can not see over it and that there are no gaps between it and the trailer sides or the ramp. If no canvas is available, several saddle blankets held together can be used instead.

b. Another method is to snap two additional ropes to the ring in the halter. One rope on each side is then passed well up into the trailer and out through the side. The horse is then led into the trailer and the side ropes are kept taut to prevent him from going off the side of the ramp. This has been found to be very satisfactory.

c. If trouble is experienced in finding room to get the No. 3 horse in, the following method is often helpful. Tie one lariat on the right side of the trailer well in front of the No. 1 horse. Then pass the lariat in front of the No. 1 and No. 2 horses and around the left side of the No. 2 horse. This lariat should be kept well up

on the shoulder and buttocks of the No. 2 horse. Do the same thing on the left side of the trailer with the No. 4 horse. Then pull to the outside on the ends of both the lariats and lead the No. 3 horse into the trailer.

#### GENERAL HINTS.

##### a. *Position of Horses.*

(1) The first horse to be loaded and the last horse should be the boldest and most aggressive horses in the squad. This is especially true of the last horse.

(2) Timid horses should be the 2nd and 3rd horses loaded in the first set of fours.

(3) Mean horses should be loaded next to each other and on the outside if possible.

b. Whenever feasible, the rear wheels of the trailer should be placed in a small ditch or depression in order to allow the ramp to be as near level as possible.

c. If it is available and there is sufficient time, hay should be stacked along side the ramp to prevent horses injuring themselves by stepping off the sides.

d. When schooling horses to load, it is good practice to feed them in the trailer when they are loaded. Also, it is well in the beginning to make the loading the last thing for the morning so that when the horses are unloaded they associate that with the idea of being groomed and put away.

e. Hold shank close to the halter, keeping a firm pressure on the halter when the horse is led into the trailer.

f. It is important to get the tail bar in place *immediately* after the last horse of a set of fours has entered the trailer.

g. When loading green horses, it is advisable to use four men to handle the tail bar for the second set of fours.

h. Extra equipment carried by the squad should include two extra halters and shanks.



# Quantity and Quality

*By Captain Charles E. Brebner, Cavalry*

**P**RODUCTION! PRODUCTION! "Keep 'em flying." Multi-thousands of planes, tanks, guns. Men, millions. Dollars, billions. All are snatches from the lyrics of this strident symphony of war effort. Production—that recurrent bass note. But there has been little publicity on the manufacturer of spark plugs for the war machine—the second lieutenants who yesterday were officer candidates.

Would you like to hear the story? Those of you who went through World War I will find much that is familiar in it. You may be one of the 80,000 officers who emerged from officer training camps on this side, or one of the 13,000 commissioned from AEF schools in France. At the beginning of that war we had 8,990 commissioned officers; 5,791 Regular Army and 3,199 National Guard. We needed about 200,000 for an army of 4,000,000.

This time, by the end of July, 1941, four months before we found ourselves actually at war, the strength of the Army had been augmented by upwards of 85,000 National Guard and Reserve officers, and the reservoir was not yet dry. However, despite the fact that our position was infinitely better in this respect than it was immediately prior to the last war, the necessity for qualifying many more young officers was undeniable. In recognition of this fact the War Department had ordered the inauguration of Officer Candidate Courses at the service schools in June of 1941. The program contemplated the attendance of 4,000 candidates for commissions in all branches annually.

The coming of war has necessitated a modification of the picture. Seventy-five thousand selected men will receive training as Officer Candidates. Here is a quantity production job, with the accent on quality.



Captain L'Abbe, of Tactics, employs an enlarged map to explain an attack problem.



Considering only the Cavalry component, let us look at the plant, the material, the process and finally, the product. You should be interested—you are going to be using it.

Many of you have seen the plant, been through it, perhaps worked on its assembly line during the days when the Cavalry School did "business as usual." Last fall you read in *The Cavalry Journal*\* about the physical changes here: the new Academic building, new Motors building, new Communications building, new students' barracks. You noted that there are six sub-assembly lines, each represented by a department: Tactics, Weapons, Horsemanship, General Instruction and Publications, Motors, and Communications. But perhaps you overlooked in that article the very brief line at the end of a summary of classes. It read: "—in addition, 100 officer candidates." That group was, in a sense, our "test order." What lay ahead was not particularly obscure and we had to discover our retooling needs. The class proceeded well enough and a gratifying percentage won their commissions. Undeniably, however, the Second Officer Candidate Class, which began October 6, profited by what we had learned, and, in turn, contributed to our knowledge of the production problems.

On December 18 information was received that in the third class there would be 200 instead of 100 officer candidates. An extra schedule meeting, a doubling of orders for all mimeographed material and the "line" stepped up smoothly.

Now we are getting set for the next step-up. The first of four increments of 100 students each will start its course of 12 weeks on March 9. This first increment will consist of 88 candidates for Military Police battalions and 12 candidates for the Air Corps. On April 6 and every three weeks thereafter a group composed of 88 candidates for the Cavalry and 12 candidates for the Air Corps will enter. Of the candidates for the Cavalry, approximately 75% will be trained for mechanized organizations and 25% for horse organizations. This program of continuous production will extend into 1943. The Weapons Department is moving into a separate building. The various departments are selecting young officers to assist in the detail work and to understudy the experienced instructors. April 6, April 27, May 18, and June 8 will come, the material will arrive, the factory will be ready and the workmen will be, or rather are, willing and able.

The Army has earned a dividend from its twenty-odd year officer training program. The fact that we had a hundred thousand officers is very good. True it is that we won't have to train as many new ones. The significant fact is that, needing fewer, we can make a more critical selection than was possible during the last war. Obviously with better material a better product can be made. Let us take a closer look at the state of prefabrication of this, to us, raw material.

The prerequisites for selection are common knowledge. The individual must have indicated that he is outstanding—that he has potentialities as a leader. His mental capabilities have been rated by an IQ test. His background has been studied. Granted that college attendance is in itself, no touch-stone to insure success, still it is interesting to observe that of the present class 65% have attended college and 28% hold degrees. Approximately half of them enjoy varying degrees of familiarity with one or more foreign languages. As may be expected, they represent all fields of professional and commercial endeavor.

The attitude of these students, the temper of the material, is of paramount interest. These men are definitely "up on the bit." They are somewhat less disciplined than are the officer students in the Basic Horse and Mechanized Class but are more aggressively alert and inquisitive. They have a more tangible reward to work for. They are very attentive during lectures, are generally uninhibited in conferences and enthusiastically cooperate in applicatory exercises.

The plant and labor being ready and the material assembled, the wheels turn. Four of the subassembly lines begin simultaneously.

The first two weeks of instruction by the Department of Tactics are of a preparatory nature, including Map and Aerial Photograph Reading, Combat Orders, Analysis of Terrain and Organization of Troops. Upon this foundation are added in overlapping sequence: Attack, Security, Antitank and Antiaircraft Defense, Reconnaissance, Command and Staff Organization and Operation, Defense, Engineer Operations, Communications, Delaying Action, Counterreconnaissance, Logistics, Defense against Chemical Attack and Employment of Field Artillery. Tactical instruction is made extremely practical with the greatest possible proportion of hours within subjects devoted to outdoor applicatory exercises in which classes are organized into tactical units. The strongest accent is placed on the officer candidate as a *leader*. In map problems he is required to make decisions and on the ground he gets actual experience in troop leading of both horse and mechanized units.

The Weapons Department lathe turns and out come, not mere operators of weapons, but qualified instructors. In recognition of the impossibility of getting across every paragraph of the material contained in field manuals, the basic essentials have been refined out and reconstituted in an instructor's outline for each weapon and period of instruction. All instruction is based on these outlines. Each student receives a copy of the instructor's outline for *every* period. He has been cautioned to observe the manner in which instruction is accomplished. When he arrives at an organization he has in his hands an instructional set-up which he has seen operate.

Every lecture, every firing period, everything done by the Weapons Department is aimed at one ultimate goal

\*"Old wine in new bottles," September-October, 1941.





This series of pictures shows the development of an attack problem worked out by an Officer Candidate platoon using ball ammunition. 1—Scout pointing out situation to platoon leader who has come forward followed by his messenger who, being farther down in the stream valley, is not exposed to hostile observations. 2—Platoon leader having met his squad leaders is issuing his orders for the attack. (Note dispersion and use of cover.) 3—Part of one squad making its approach using cover. 4 and 5—Rifle groups having reached open ground build up the fire attack. 6—The light-machine-gun squad supports the attack from high ground on the left flank.

—the use of weapons in combat. Instruction in mechanical functioning is keynoted by the pithy observation that “a weapon out of action is a weapon lost.” The theme song of technique of fire is “Effective Fire When and Where Needed.” 10° below zero or 110° above, rain, snow, wind, and dust (Machine-Gun Ridge can

be a miserable place—remember?) the classes go on, according to schedule, converting the theoretical into the practical. A maximum of realism is attained when Weapons and Tactics conduct joint problems with ball ammunition.

It is only to be expected that the instruction by the



Department of Horsemanship has been somewhat modified from the pre-emergency, hell-for-leather days of Fort Riley. Students now arrive who have never ridden or who have had very limited experience with horses. The situation is not eased by the fact that the greater number of available horses have had very limited experience with students. The first task is to build up the self-confidence of the students. Training begins with the most elementary instruction for a considerable period at slow gaits; it progresses into gaiting, marching, close and extended order drill and jumping over low obstacles. Instruction in care of animals, packing and adjustment of equipment, animal management and horse shoeing procedure are conducted concurrently.

At the completion of the three-month's course, the successful candidate has obtained a thorough understanding of the military seat in theory and in practice so that he can not only ride it but teach it to others; he has a basic knowledge of the use and application of the aids; he can guide and control a horse over varied terrain; he can put in practice approved methods of marching, care of horses on and after the march and in garrison; and he has acquired an appreciation of the capabilities and limitations of the horse and the necessity for and methods of conditioning.

The Department of General Instruction and Publications performs a number of varied processes on its sub-assembly line. They include: A Study of the Components and Mobilization of the Army of the United States, Military Courtesy and Customs of the Service, Military History, Current Military History, all phases of Troop Administration, Training Management, and Technique of Instructing.

That last one is of particular interest. It keynotes one of the principal objectives of the Cavalry School—the development of instructors. In Training Management the student becomes familiar with the broader aspects of military training. One phase, the Technique of Instructing, is broken down and taught in detail. The mechanism of instruction as set forth in Field Manual 21-5 and an elaboration of the process of preparation by the instructor are explained and demonstrated. The class is broken down into groups of 25 and each student is required to make a two to three-minute extemporaneous talk, the purpose of which is to enable the instructor to give each man an initial rating and to comment on faults of voice and manner. Next, a basic military subject is assigned for each individual to present to his group as a five to seven-minute lesson using visual aids. This performance is criticized by the instructor and by three other students. A more advanced military subject is then assigned to each student which he must present, employing the demonstration method, in an eight to twelve-minute period. This time he is criticized in greater detail by his instructor and three classmates. The instructors are, and the students become, almost meticulous in these criticisms. However, no attempt is made to subordinate the student's personality to an

established pattern. To the contrary, every effort is made to exploit the individual's natural ability and eliminate only his acquired defects.

The Department of Motors contributes its piece to the final assembly by means of a series of conferences and demonstrations covering General Automotive Features, Gasoline Motors, the Army Maintenance System, First and Second Echelon Maintenance, Driver Training, Capabilities and Limitations of Combat Vehicles, Difficult Terrain and Stream Crossings.

It goes without saying that as he moves along from subject to subject in each department the student leaves behind him a pattern of grades which indicates his assimilation of the knowledge offered him. Equally obvious is the fact that possession of knowledge does not in itself qualify a soldier as an officer. Proceeding on the hypothesis that knowledge is the tangible factor, the School is particularly interested in what might be termed the intangibles—force, initiative, tact, sincerity, common sense, coöperation, and leadership—in arriving at the final decision to commission the candidate. Toward this end all instructors carefully study each student, and, periodically, the results of their observations are consolidated within departments giving each candidate a rating of unsatisfactory, satisfactory, very satisfactory, excellent, or superior. This rating is made entirely independent of his scholastic standing.

The end of the "line" is reached and out of the plant steps a man. He looks different than he did three months before, and it is not entirely the new uniform he wears. What have we produced? an officer? The paper he holds in his hand says he is. The bars he wears on his shoulders proclaim to the world that he is.

But, consider one more analogy. A bottle of champagne smashes against an intricate assembly of steel and a warship slides down the ways. It is a warship. Men have built it to be such. The papers proclaim it to be. But as it slips toward the water the men who built it don't know whether or not it will float, even though they have confidence that it will. It does float. It is a ship. It is classed as a warship. Is it ready to fight? You know the answer. At this time it has passed its first test in that it will float. It is now a hull, specially designed to receive the guns and other equipment that will make it, in fact, a warship.

Our erstwhile officer candidate has floated. He is an officer in the sense that all that can be practicably done to him in the Cavalry School, in the time allowed, has been done. That which will qualify him to be an officer in every sense of the word can and must be added by the application of responsibility under the patient guidance of his organization commander.

That we have confidence in our own product is evidenced by the fact that at the time of writing, 14 former officer candidates, now commissioned, are assigned to the Staff and Faculty of the Cavalry School and several more will soon be added. They are doing a fine job. They will do a good job for you!



# Mobile Surgical Unit

## First Armored Division

*By Major L. Holmes Ginn, Jr., Medical Corps\**

WE have developed in the 1st Armored Division a mobile surgical unit that appears to answer the need for a field operating room in highly mobile warfare.

The writer, who was fortunate enough to have been on duty with the old 7th Cavalry Brigade (Mechanized) and with the 1st Armored Division since its organization in 1940, has long felt that it was necessary to modernize our medical equipment if we are to render close medical support to rapidly moving mechanized troops. It was but a short step from the kitchen trucks and machine shops of the early days of mechanization in our Army to the visualization of the surgical unit as it appears today.

During the spring of 1941 through the enthusiastic support of the Division Commander, Major General Bruce Magruder, it was possible for the 47th Medical Battalion (Armd) to construct the first model of a field surgical unit which has undergone a rigid field test during the fall maneuvers of 1941. To be sure that we would have the same mobility as the remainder of the service elements of the division the standard 2½-ton, 6 x 6 truck was selected as the vehicle upon which to construct the unit. The bows were raised to give additional head space, the canvas was replaced by sheet metal and the interior lined with plywood. The rear was closed by close fitting accordion type plywood doors. A window, closed by sliding metal shutters was installed in the front and above the level of the roof of the cab. This gave us a small room, relatively light proof and dust proof.

The interior was kept simple. In the front end of the body, hot and cold water tanks were installed, heat being furnished by a burner from the standard gasoline field range. Air pressure was applied to both tanks so that running water was available without depending upon gravity flow.

Shallow cabinets were fastened to one wall to hold the necessary surgical supplies. A larger cabinet placed between the two tanks afforded space for the more bulky items of equipment.

Standard headlight assemblies were fitted in each corner of the roof so that it was possible to adjust the beams. They were operated from the battery and proved a satisfactory method of illuminating the surgical field.

For an operating table the wheeled litter carrier as issued was used but was found to be quite unstable. We then installed eye bolts in the floor under each end of the table. From these light cables under spring tension were fastened to each end of the litter, thereby correcting this difficulty.

This arrangement had an additional advantage in that it was not necessary to move the patient from the litter on which he arrived at the station. Upon arrival the patient was placed on the wheeled litter carrier, preliminary examination and treatment was given and the litter carrier then wheeled into the body of the truck on an inclined track fitted to the tailgate.

Canvas wing tents extend from either side of the truck and give in effect a three room surgical unit. In actual use in combat, one side could be used for pre-operative care and the other for minor surgery. This leaves the body of the truck itself free for the use of one surgical team.

We have used a three-quarter ton trailer which is towed by the truck to carry the additional supplies necessary for its operation, this has made the truck self-contained except for the necessary personnel to operate it. The time required to have it ready for operation has averaged about fifteen minutes from the time it stops. It is easily hidden in woods and obviously it is as mobile as the other trucks of the division since there has been no modification of chassis to construct this unit. One additional advantage which is of particular importance, considering its primary function, is the ease with which it can be kept clean as compared with the difficulty of performing good surgery in a tent.

This unit accompanied the 1st Armored Division during the Louisiana Maneuvers in September, I Armored Corps training at Camp Polk, Louisiana in September and First Army Maneuvers in the Carolinas in November returning to Fort Knox early in December, 1941. During this period the surgical unit was almost constantly in use, was moved many times and proved to be very satisfactory and practical for extended field service.

This is the first model and it is realized that improvements must be added. At the present time five more are being constructed for this division and some of our mistakes will be rectified. The water tanks are larger than we need and when full take up an undue amount of the available payload.

\*Surgeon, 1st Armored Division.





1—Rear view of surgical truck (experimental) 47th Medical Battalion (Armored) in operation. 2—Side view of 2½-ton cargo truck loaded with 15 litter patients. 3—Surgical team in truck.

By extending the canvas to the rear in addition to the sides working in "blackout" will be facilitated and the operating personnel and patients will be protected from inclement weather at all times.

The addition of this unit to our medical battalion has not completely solved the problem of increasing the mobility of the clearing station. Tentage is difficult to hide, slow to establish and almost impossible to move on short notice. Our ward space should be on wheels also. This is not as difficult to accomplish as it would appear on first consideration. A small bus which would accommodate twelve litter cases with sufficient space to permit attendants to care for the patients could be installed on our present 2½-ton, 6 x 6 chassis. This would necessitate a special body but we would have the advantage of using

a standard chassis and would present no additional spare parts problem within the division.

The Medical Department Equipment Laboratory at Carlisle Barracks is now studying the problem of production of the two vehicles discussed above and it is hoped that in the near future we will be able to give our clearing stations their needed mobility.

As an emergency expedient we have found that it is possible to move fifteen litter cases in the standard 2½-ton cargo truck utilizing only the standard litter. The litter slings are used to secure the litters in place with six resting on the braces of the bows, six on the seats and three on the floor of the truck body. This is not advocated as an ideal means of transporting patients but in an emergency it could be utilized if sufficient ambulances were not available.



# Morale and Medical Aid

*By Corporal Ray W. Smith, (Medical Detachment), 4th Cavalry*

*"The final word regarding victory and defeat is spoken, not by the arms and equipment, nor by the way in which they are used, nor even by the principles of strategy and tactics, but by the morale of the troops."—FOERTSCH: The Art of Modern Warfare.*

THE medical field soldier attached to a reconnaissance cavalry regiment and thrown more upon his own resources as a result of the type of activity demanded from such an organization, is the subject of this brief article. The nature of his duty makes of him a potential morale factor. In the background are mental notes made during Medical Detachment, 4th Cavalry, participation in the Army and GHQ maneuvers in Louisiana.

The main task of a reconnaissance cavalry regiment is to get information about the enemy—his whereabouts, disposition, plans, and strength. The nature of the task calls for mobile action over a wide territory, and secrecy requires that reconnaissance missions be performed by small and often scattered units. In respects, this activity resembles that of the guerrilla. Confronted with actual casualties, the medical field soldier attached to a troop or unit engaged in reconnaissance, or on a mission of contact with, or delaying action against the enemy, could perform only bare emergency aid. Need to be where casualties would most probably occur would require him to keep up fairly well with his unit.

More and more the psychological factor, morale, is recognized as a valuable asset to the medical practitioner. Not in the "fake" sense, but as a legitimate and frequently vital auxiliary. And this is so, whether the practitioner be a regimental surgeon, or a troop aid man. The presence with field units of medical soldiers se-

lected for their caliber as morale factors would provide a definite "lift," particularly to isolated units.

If stress is placed on this morale factor, it is because medical aid and its personnel have necessarily been shadowed by the innumerable other problems of military training, and because medical aid with a reconnaissance regiment, like the 4th Cavalry, is in experimental stages.

It does appear that more efficient and useful results from the presence of medical soldiers with field units may be obtained through taking a new, or perhaps, fuller view of such personnel. If the medical aid man is to perform adequately, his presence must induce the confidence of men about him.

Attainment of maximum usefulness from medical field soldiers is not great or difficult. Such personnel constitute a relatively small part of the organizations to which they are attached. It should be possible therefore to insure selection of men qualified to contribute to the confidence of their comrades, in turn insuring more timely and effective treatment of their illness or wounds, higher morale, and increased efficiency.

With all respect to the medical soldiers I have known, I believe that their importance from this standpoint has not been considered or utilized sufficiently. These are days of specialization in military life no less than in industrial, and a broader, fuller view of medical aid and equally broader, fuller view of training the medical soldier do appear desirable.

Isn't there still a tendency to undervalue medical personnel—their "potential" in the service? And may not this tendency be counter-acted healthily by action to select, train, and perhaps—yes—recognize and value the medical field soldier more highly in this fuller view?



## One Purpose, One Mission

I am a soldier and I have spoken to you as one soldier to another. I have but one purpose, one mission, and that is to produce the most efficient Army in the world. Given the American type of soldier and our war industries operating at top speed; given your aggressive support on the home front, and it can be done, and it will be done in time.—GENERAL GEORGE C. MARSHALL, Speech at 1941 American Legion Convention.



# MOTORCYCLE AMBULANCE\*

DURING the Louisiana Maneuvers, 1941, a problem developed in the transporting of disabled motorcycles either from one bivouac to another or on the march. Having made brackets to fasten on the rear of Scout Cars to haul them, which proved unsatisfactory, a thought always lingered in our minds to find some means of hauling them with the least trouble. One day in October, 1941, in passing the Outside Salvage Storage in Camp Bowie, Texas, we saw an unattached front axle assembly for a 1931 Chevrolet by a pile of 1½" and 2" gas pipe. This gave us an idea, and in a short time we drew up the plans and gave them to Capt. John G. Bowes, Regimental Motor Officer. He secured permission from our Regimental Commander, at that time, Colonel Maxwell A. O'Brien, now Brigadier General O'Brien, to go ahead with our plans.

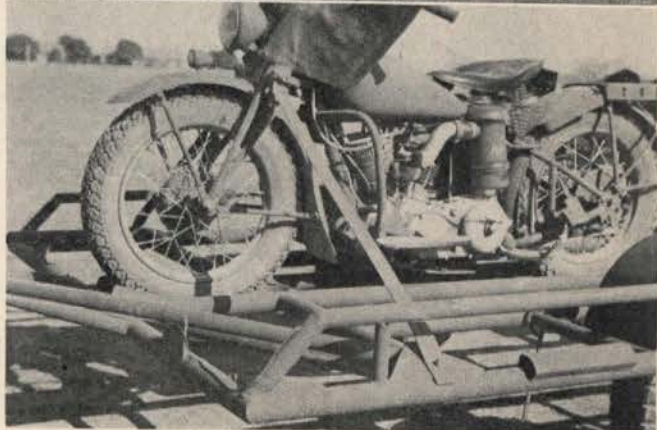
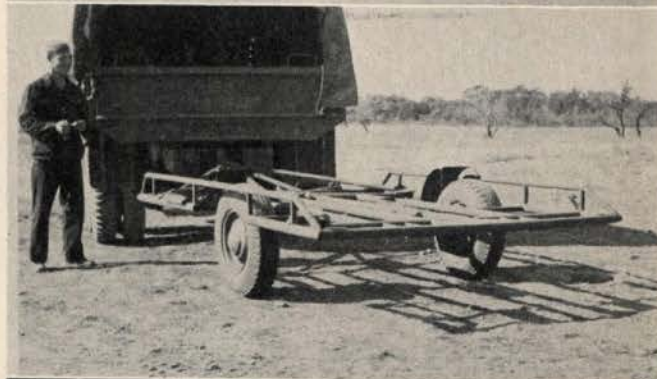
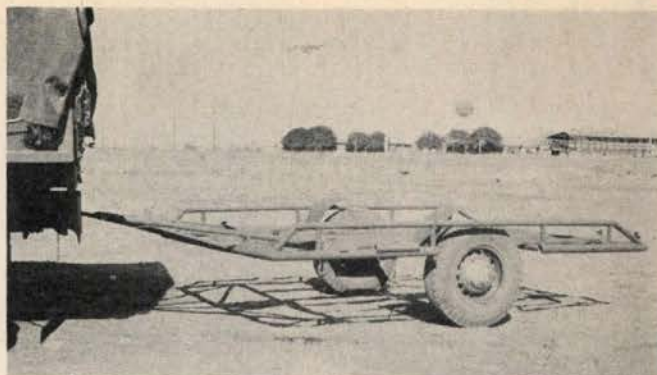
Having obtained the Commander's approval, a Requisition was submitted to the Salvage Officer for three hundred pounds of salvage 1½" and 2" pipe, one 1931 Chevrolet (Reversed Elliot Type) front axle assembly, two 7.00x15 wheels and tires, and a broken 1" driving axle.

Taking these materials to our shop, we stood three Indian Motorcycles up on their center stands in positions as shown in illustration. We layed 2" pipe in a rectangular shape around the motorcycles forming the frame. Then by marking the positions of the wheels, we placed pipe across and lengthwise, welding them together to obtain the strongest structure, using the least material and still maintaining the runways for the wheels.

Electric welding is used on the entire vehicle.

After completing the frame, we cut the axle in two and placed two pieces of 1½" pipe, one on each side, and welded them and the axle together lengthening the complete axle ten inches. Then we turned the complete axle assembly over to obtain a higher road clearance for axle and body. We then removed the tie rod and steering knuckle arms and after giving the wheels one degree Camber with 1/16" toe in and Zero Caster we welded a ½" iron block in the yoke making it stationary to the axle. We then welded the frame to the axle solidly as shown.

To form our hitch, we blocked the frame up behind a GMC 6x6 and placed two pipes from the corners as shown to the center of pull and welded them together at both ends, then added three shorter pipes between them to give more strength and pull-ability. We then cut a piece of ¼" metal to form under the outside pipe



\*Designed and built by Pvt. 2d Class Specialist J. E. Meyers and Pvt. 2d Class Specialist W. E. Sprott Service Troop—113th Cavalry (H-Mecz) Regimental Motor Maintenance Platoon.

NOTE: Specifications and drawings will be furnished upon request to C. O. 113th Cavalry.



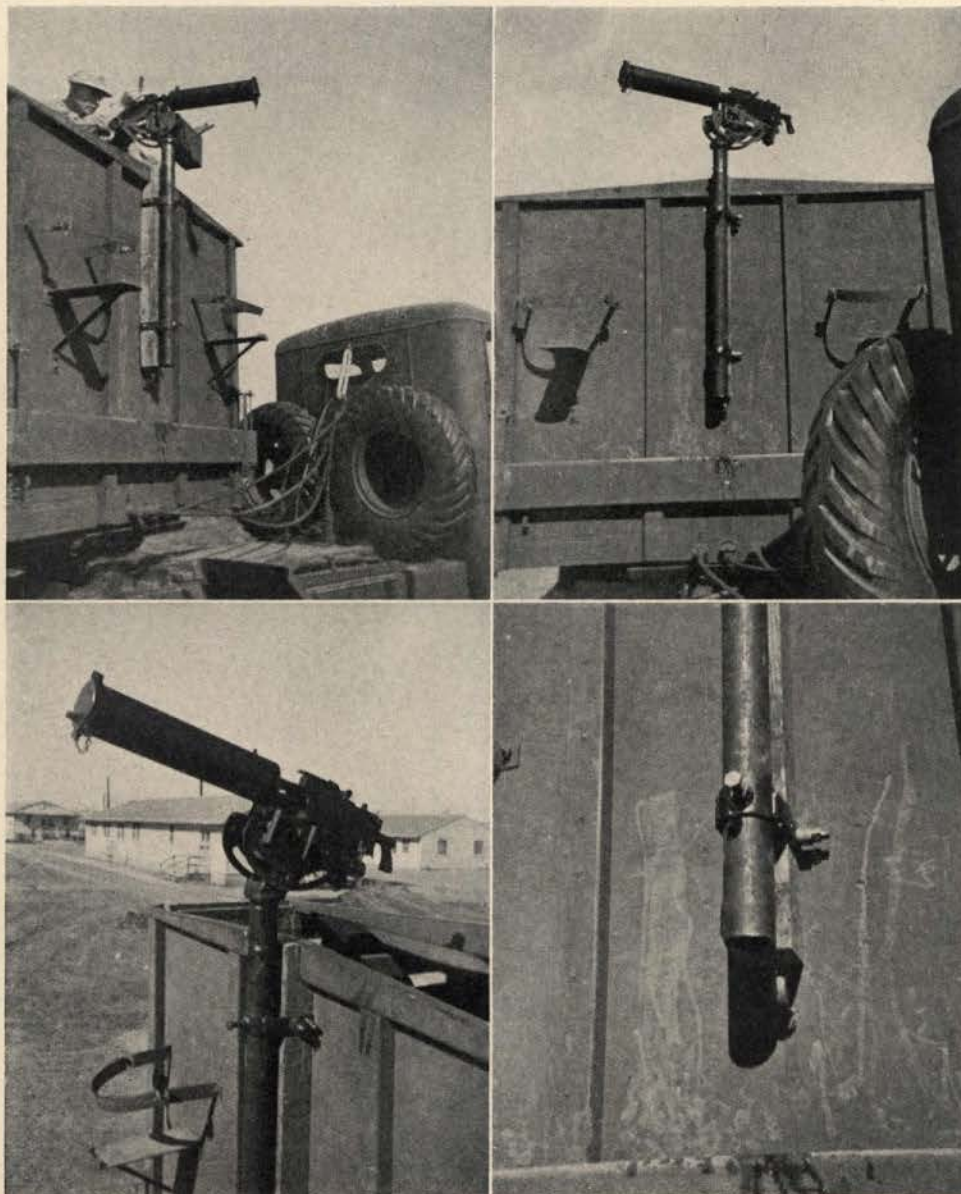
of the hitch and the top of the front pipe of the frame and welded it securely to both for added strength. From the old axle, we heated and formed an eye at one end of it three inches inside diameter, and placed the straight end of it in the center pipe and welded it to five pipes at their intersection making a very substantial hitch.

By using three old channel-iron bumpers, we made the runways and base for the wheels and welded them to the frame. To give more strength and added appearance, we took two pieces of 1½" pipe and welded them Bridge Span Style from front to rear above the outside rail. The lights were made by welding a clearance light

at each rear corner and running the wiring inside the frame to the front of the vehicle, giving good protection to the wiring.

This entire trailer has a total weight of not more than 350 pounds empty, and not more than 1900 pounds fully loaded, and can be towed behind any Government Vehicle of ½ Ton Capacity on up with very little effort. It is designed so as to carry one, two, or three motorcycles and still maintain the load distribution, balance, and weight on the hitch.

NOTE: This organization has towed this vehicle approximately 3,000 miles under ¾ or full load with not so much trouble as a flat tire.



MACHINE GUN MOUNT FOR PORTÉE TRAILER (EXPERIMENTAL)  
113th CAVALRY

It consists of an iron pipe attached to a four-by-four which in turn is attached to the front end of the trailer. This pipe encloses a smaller pipe which makes the height adjustable and has a collar on top to fit the pintle. This gun has a 360° traverse, but in order to fire to the rear, would require two men to manipulate the gun, one man standing or sitting outside the trailer and the other man in the trailer. Numerous locations for the machine gun were tried, but none of them were as satisfactory as this one.



# Blitz Maintenance

*By Captain Caesar F. Fiore, Cavalry\**

**K**EEP 'EM ROLLING, has been adopted by motorized and mechanized units of our armed forces as their slogan after the National Slogan "Keep 'Em Flying." In order to keep them rolling, particularly in combat and during front-line operations, we of the *reconnaissance* elements must learn new and better methods of maintenance, in the realization that our present plan of action is too outmoded and much too slow to produce effective results at a time when speed is of the greatest importance.

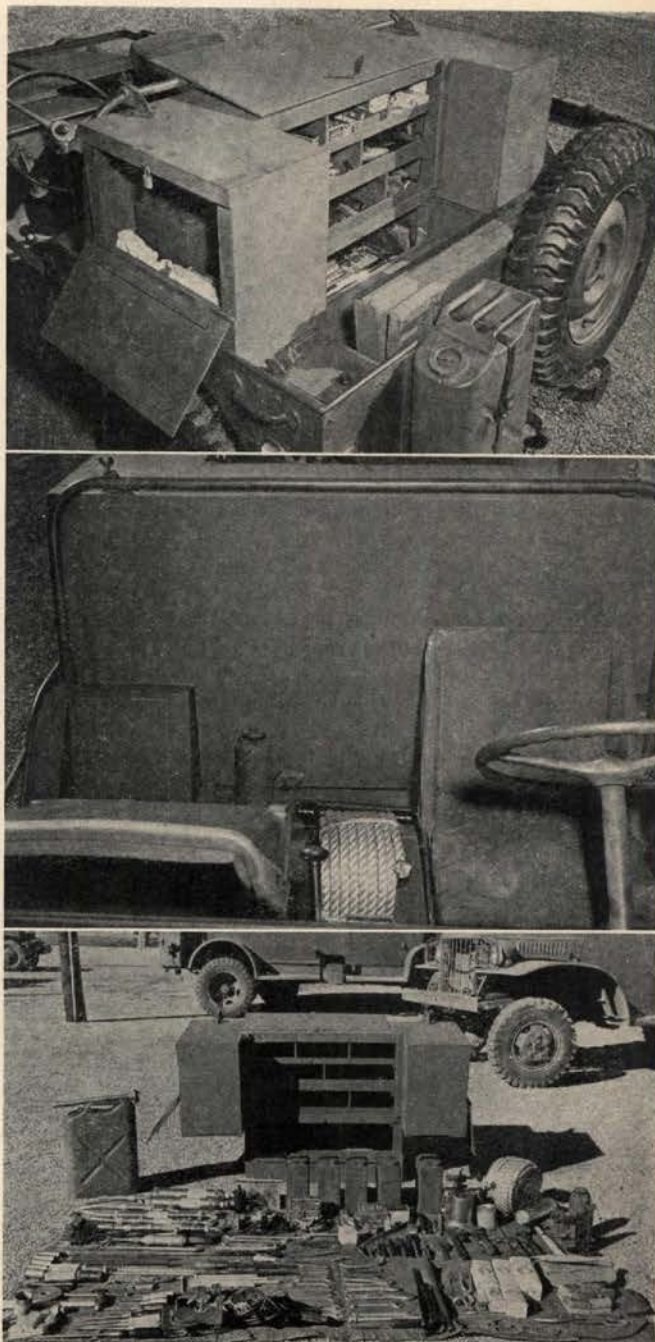
Maintenance problems in reconnaissance units are in no respect comparable to the problems of other motor units. For example, the present conception of motor maintenance assumes that a disabled vehicle merely pulls over to the side of the road and awaits the arrival of the unit maintenance truck. If the unit maintenance section is unable to correct the failure, they move on and leave the disabled vehicle for third echelon maintenance units to come by. This method pre-supposes a definite road of march and vehicles must maintain this road of march in order to receive the advantages of maintenance. Stray vehicles can of course receive aid even if off the beaten path but at best the system is slow and sadly inadequate for reconnaissance warfare.

For reconnaissance elements field maintenance presents a problem in itself. The normal action of a reconnaissance troop necessitates the coverage of an extensive area and as often as not the vehicles are widely separated. A reconnaissance unit to be effective *can not* be confined to one road but must operate on several and in order to fully accomplish the mission of reconnaissance it is frequently necessary to dispense entirely with roads and drive cross country.

It is for this reason that the present system of field maintenance must be altered for reconnaissance units. It is neither logical nor practical that a 2½-ton truck with boom and winch should go forward to make necessary repairs and replacements in the face of enemy action. The 2½-ton truck is too heavy and cumbersome for cross-country driving especially with the enemy in close proximity. Under fire the 2½-ton truck offers an excellent and costly target. Lack of speed, armor protection and maneuverability offers little chance of escape to the vehicle or its occupants in case of sudden attack. Furthermore the loss of the 2½-ton truck means the loss of priceless equipment and spare parts—enough for the entire troop.

The answer then, lies in that handy little vehicle which has thus far found so many other uses in our army—the *Peep* or as some folks would have it the *Jeep*. In any event the ¼-ton 4 x 4 is the answer to the me-

chanics prayer. In the accompanying photographs I have tried to show how we have equipped the "Blitz Buggy" with cabinet and a fair supply of tools and spare parts. The result is "Blitz Maintenance." The principle of using small fast maintenance vehicles in the field is not a new one. Recent G-2 reports accredited German successes in Blitz Warfare to their superior system of motor maintenance, particularly in combat. In short their system is *aggressive* where ours is *passive*. By learning some of the secrets of "Aggressive Main-



\*Commanding, 92d Reconnaissance Squadron.



tenance" we will gain greater effectiveness and increased efficiency for our reconnaissance units in action.

Instead of the 2½-ton truck being used as the maintenance truck we consider it as a supply truck to carry spare parts and sub-assemblies. In addition, the supply truck can serve as a wrecker, car shop and general refueling station. The maintenance vehicle instead of being the 2½-ton truck is the ¼-ton 4 x 4 outfitted and equipped to do first, second and limited third echelon repairs on any vehicle in the organization. The small, sturdy and highly maneuverable vehicle outfitted and equipped with cabinet and tools as shown in the accompanying photographs can do almost all of the work that has been done by the 2½-ton truck. The limit of effectiveness is not dependent upon the size of the maintenance vehicle but rather by the nature of the repair and the availability of replacement parts.

A troop maintenance section could well be set up as follows:

- a. One 2½-ton truck, with boom and winch, well stocked with replacement parts. This truck does rear line maintenance and towing only. It serves as a mother vehicle to carry the supplies that the smaller ¼-ton trucks will need for the actual front-line maintenance.
- b. Two or perhaps three ¼-ton 4 x 4 trucks outfitted with equipment as shown in accompanying photographs.
- c. A combat vehicle, either scout car or tank, equipped with radio to receive calls from disabled vehicles. This vehicle will also serve to protect the maintenance section against local attacks.

To give an example of how this arrangement works let us assume that a reconnaissance troop is on a mission well forward of other divisional units and in the vicinity of enemy forces. The third platoon covering the right sector has a failure in one of its vehicles, let us say a burned out coil. By pre-arranged code symbols the third platoon commander radios troop headquarters "one scout car disabled," giving the nature of the trouble and the location of the vehicle. In most cases the maintenance section radio will pick up the message direct. But in the case they do not, Troop Head-

quarters will send them the message. Immediately one of the Maintenance Peeps gathers the required replacement parts and races off to the scene. Using its high road and cross-country mobility, it covers the distance rapidly. If the damaged Scout Car is so situated as to cause difficulty in location, guides are sent out from the disabled vehicle to assist the Peep in arriving at its destination. Once the Peep has arrived at the scene, it is only a matter of moments until the damaged combat vehicle is repaired and has again taken its proper place in action. The Peep returns to the maintenance section and awaits new missions.

In this manner the great majority of motor failures can be reduced in the minimum of time and without unnecessarily exposing more expensive equipment. It can be readily seen that the result will be increased speed in reconnaissance; and where time is the watchword "Blitz Maintenance" must be exploited to the fullest degree.

The cabinet itself is very easily constructed of white pine and waterproof plywood. The cabinet fits very snugly into the ¼-ton 4 x 4 and one feature which is of particular note is that the cabinet can be removed by merely lifting it from its place in the vehicle. The only alteration necessary to the Peep is the removal of two brackets holding the top brace. These brackets are then attached to the top of the cabinet and the brace for the canvas top is then carried in the position shown in photograph No. 2. (Previous page.)

In photograph No. 3 a display of all tools and equipment carried in the cabinet is shown. It is not necessary to list here all the parts and tools shown. The weight of the cabinet and all items shown complete is approximately 320 pounds. This is not an excessive load for the ¼-ton 4 x 4 vehicle.

The framework of the cabinet is made of 2 x 2 white pine with metal L braces at critical points. The covering throughout including the slide door in the face of the cabinet is made of ¼-inch waterproof plywood. Small hinges, hasps and locks are easily available; the entire cabinet can be constructed at a cost of approximately \$15.00. NOTE: Detailed specifications and drawings will be supplied upon request to C.O., 92d Reconnaissance Squadron, Camp Funston, Kansas.



## Experience

I believe that five hundred new men added to an old and experienced regiment were more valuable than a thousand men in the form of a new regiment, for the former, by association with good experienced captains, lieutenants, and noncommissioned officers, soon became veterans, whereas the latter were generally unavailable for a year.—From *Memoirs*, by GENERAL W. T. SHERMAN.





Demonstration Hall, the home of the Military Department at Michigan State College.  
(Building on left of flag pole.) Building at right is the new Jenison Field House.

# The Cavalry Unit at Michigan State College

*By Lieutenant Colonel Morris H. Marcus, Cavalry*

EDITOR'S NOTE: In subsequent issues of The CAV-  
ALRY JOURNAL, similar descriptive articles about all of  
the other Cavalry R.O.T.C. units will be published.

\* \* \*

THE problems of all R.O.T.C. units differ accord-  
ing to school policies and geographical location. The  
War Department prescribes a program of general in-  
struction to be followed and recommends the arrange-  
ment of courses so that a proper balance between theo-  
retical and practical instruction may be obtained. Cli-  
matic conditions and college facilities in the various  
sections of the country regulate the arrangement of this  
program.

To illustrate in three different sections of the country  
—students at Texas A. & M. College are able to have  
outdoor practical instruction throughout the entire year;  
the University of Illinois has a tremendously large  
armory within which all dismounted units may drill  
throughout the winter, but they have no riding hall  
available to the Cavalry unit; at Michigan State Col-  
lege we have no armory suitable for dismounted drills,  
but we do have a riding hall in which mounted instruc-  
tion may be carried on throughout the year. Weather  
conditions prohibit outdoor drill from October to April.

NORMAL TRAINING SCHEDULE. Let us now follow  
through in a brief way the course of instruction followed  
by a Cavalry student. The Cavalry Unit consists of 75  
Advanced Course students and 350 Basic students. The  
school year is divided into three terms. Michigan State  
College freshmen (Cavalry Unit) are first given a  
course in military courtesy and discipline after which  
they are immediately started on dismounted drill which  
lasts throughout the fall term until weather conditions  
prohibit outdoor work. During the winter term when  
no outdoor instruction can be given, they are instructed  
in rifle marksmanship and horsemanship; rifle marks-  
manship being conducted on an indoor range with facil-  
ities for thirty students. In the spring term, as soon as

weather permits, mounted drill is commenced. This  
includes at least one mounted parade for every fresh-  
man student during the spring term. Dismounted drill  
is, of course, conducted concurrently. Other subjects re-  
quired to be taught to freshmen are so placed as to fit  
into this schedule.

The student continues his training as a sophomore  
in the fall term of his second year with mounted drill  
and in the spring term with both mounted and dis-  
mounted drill and combat exercises. The winter term  
of the sophomore year is devoted to the theoretical study  
of weapons, technique of rifle fire, combat principles,  
and other subjects.

Advanced Course students are selected from those  
sophomores whose records show outstanding work scho-  
lastically both in the Military Department and in other  
Departments of the College and who have demonstrated  
qualities of leadership throughout their basic training.  
In order to make the course as practical as possible for  
Advanced Course students, all juniors and seniors are  
detailed as instructors of the Basic students in close and  
extended order drills and combat exercises during the  
fall and spring terms, always, of course, under the  
supervision of a commissioned officer. Our Corps Organi-  
zation calls for the appointment of senior students as  
officers and juniors as non-commissioned officers. Classes  
are so arranged that either a junior class or a senior  
class meets at the same time as a freshman or sophomore  
drill class in order that these Advanced Course students  
will be available to act as instructors. During the first  
week of each fall term, while the freshmen are being  
given military courtesy and discipline, both the junior  
and senior classes are given a course in Methods of In-  
struction, both theoretical and practical, in order better  
to prepare them for carrying on this type of work during  
the balance of the term. In this way full advantage has  
been taken in the past of every opportunity to give  
these students a maximum of mounted training and





*Top:* Students test their strength. *Center:* Animal management in bivouac, Fort Custer R.O.T.C. Camp. *Bottom:* Cavalry students from the University of Illinois, Culver Military Academy, and Michigan State College join forces at the Fort Custer R.O.T.C. Camp.

practical instruction throughout the year. Other required theoretical subjects are taught insofar as possible during the winter term.

**STUDENT HORSEMANSHIP ACTIVITIES.** Michigan State College is essentially an agricultural college. It renders a great service to the farm people of the state of Michigan through its extension courses, radio programs, and special Farmers' Conventions. Horseman-

ship has therefore always been a strong factor in maintaining the R.O.T.C. in the spotlight. Due to the limited hours allotted for instruction in equitation, students are encouraged to ride on their own time. Basic students are allowed riding passes as soon as they complete their freshman course, and a great many of them take advantage of this opportunity to ride on Saturday afternoons and Sundays. Bridle paths are now being constructed to encourage this activity still more. During inclement weather the riding hall is opened for their use.

From the above schedule one can readily see that the riding hall of Michigan State College is a very busy place. In fact, from 8:00 o'clock in the morning until 6:00 P.M., during inclement weather, there is not one hour free except that between 12:00 Noon and 1:00 P.M. (Artillery classes also use the riding hall for Gun Drill.) Our horses are worked from three to five hours every day. We have a remarkably good group of horses, and they are all in fine shape.

**NEW POLICIES:** A short while ago a directive was received that every effort would be made to make our course of instruction a practical one. In view of the above schedule and the fact that our course was already quite practical, how could we change this to give our students more practice? The following items have been instigated and may be of interest to others:

On Thursday, December 4, 1941, the entire senior class of Cavalry students was taken to a nearby city where it watched the assembling of the medium tank from the ground up. Major John G. Hritz, Executive Officer, personally conducted the class and afforded them ample opportunity to ask questions. From here they went to another plant and watched the assembling of the large 2,000 h.p. airplane motors. On the way home they visited an airplane factory. It is hoped that similar tours may be organized and conducted through defense plants now being constructed.

Our history course this year was re-arranged so that it might be conducted by the students themselves. Each student was assigned a subject, required to write a monograph, and deliver his lecture to the class. The students were enthusiastic about this method of conducting the course, and received a great deal of practical value from it. So enthusiastic were they that some of them have even asked if the entire balance of the year could not be conducted in the same manner. This, of course, would not be practicable, but other methods of giving them "practice teaching" have been set up.

Senior students will be detailed to conduct the instruction in rifle marksmanship and in freshman equitation under the supervision of the regular instructor. Inasmuch as their classes do not occur at the same time during the winter term, this must be conducted on a voluntary basis. So far, there is no lack of volunteers.

**CONCLUSION.** The foregoing is a very brief resumé of the activities which are carried on by the Cavalry



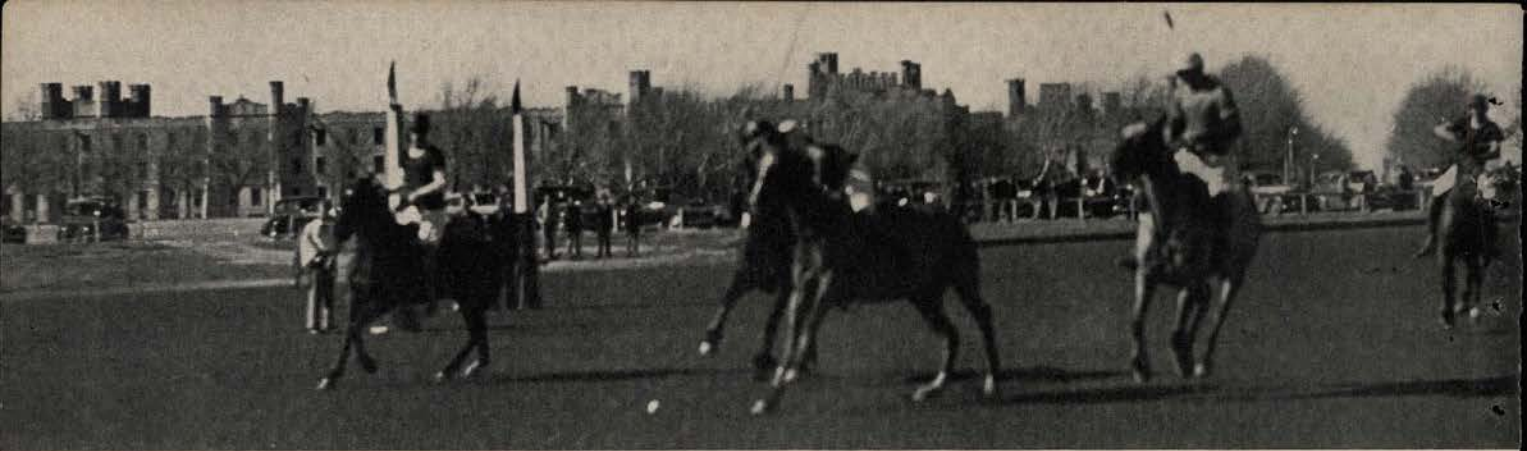


*Top: A Pershing Rifles unit contains cadets from all branches.  
Bottom: Freshmen and Sophomore Cavalry students on parade.*

Unit at Michigan State College throughout the year. Everyone here is coöperating to take advantage of every opportunity which presents itself for improving the training of the R.O.T.C. student. The resulting product may not be an exemplary example of a perfectly drilled individual, but he certainly is a Reserve officer

of high quality, capable of making his way in the service and of leading a platoon efficiently. Reports indicate that Michigan State College graduates already on active duty have not only made a favorable impression upon the service as a whole, but have brought honor and distinction to their *Alma Mater*.





# R. O. T. C., New Mexico Military Institute<sup>\*</sup>

*By a Cadet*

IN the present day expansion of the Armed forces, our New Mexico Military Institute is playing a significant rôle in supplying Cavalry branches with capable young officers. Being one of seven Senior R.O.T.C. Cavalry Units we are naturally proud of the records our graduates are making. This may sound boastful but I think it is warranted in the fact that one of the primary objects for which the school strives is—to build justified confidence. After four years of intense training in leadership, horsemanship, map reading, scouting and patrolling, and basic combat principles; the graduate is prepared for his first assignment with a working knowledge of the elementary principles of Cavalry Combat and imbued with a spirit of coöperation in the combat "team."

Our system is based upon three main objectives, namely: Leadership, horsemanship, and combat principles.

(1) Leadership, the first of these objectives for we have realized for a long time that nine-tenths of the successful tactics for small units is found in the quality of personal leadership. For this we have here a small scale, model of a regular army regiment. A typical cadet will experience the four natural grades, including the private, corporal, sergeant and officer; and will acquire a first hand knowledge of each. A platoon or troop commander learns by actual experience how to instill in his unit an appreciation for coöperation in coping with any situation that may arise. In brief the objective is a team with a leader.

(2) Next on our list is horsemanship; we know that our value as Cavalry Officers will depend primarily upon our interest in, knowledge of, and ability to instruct subordinates in the distinguishing characteristic of our service. Just as a tank is to a tank-commander; a horse is to the Cavalryman. In the course of our training we learn how to ride, care for, and condition any type of horse that may be assigned us. There are some cadets here who on nearby ranches have lived in a saddle all

their lives and also some who have never seen a horse before. No matter which, they all get the same instruction in military horsemanship, care of animals and stable management. A cadet is given the opportunity to become as proficient in this art as he wishes. Aside from the regular cavalry drills we have a first class jumping team, a renowned polo team, and special periods for those interested which we call "privilege riding." In all four grades of tactics, under expert tutelage, we have required equitation classes twice a week during the warmer months. These all speak for themselves, I think, in that we have had no unfavorable reports on the riding ability of any of our graduates.

(3) For field operations our training has been specialized under map reading, scouting and patrolling, and basic principles of combat. Of course we have theoretical class room work in all these, but they are not valued half so highly as the practical experience we receive in actual problems. We plan to have three day marches in which a leader will have to be able to read a map or else. . . . In problems of scouting and patrolling the corporal or lieutenant now affects every principle he has learned in reconnaissance, cover and concealment adhering to and performing his mission, etc. Combat



<sup>\*</sup>Lt. Colonel E. G. Cullum, Cavalry, P. M. S. & T.





principles involve the greatest range of practical activities, for daily we have problems in mounted and dismounted combat or a combination including offensive, defensive, security, outpost and machine gun. On Saturday mornings we have mounted and dismounted problems of a broader scope, the actions being either advance guard, rear guard or individual patrols. These require the leader to be on the alert all the time, to give his orders, to know the limitations and capabilities of his assigned arms, in making his estimate of the situation and type of action he will employ. The majority of our leaders, with practice, are performing their jobs in a manner that would make any unit respect and follow them anywhere.

Of course we do not have the time nor the special mechanized arms and equipment to place ourselves on a level with a regular army unit. But we do utilize the time we have to the greatest possible extent and study the basic principles of each individual weapon and motorized unit.

The general attitude of the cadets toward this training is one of earnestness and appreciation, for we realize that before many months have passed we shall be applying these principles on a much graver scale. It is our desire to acquire a first-hand knowledge of the Cavalry and supporting weapons, maintaining always a deep respect and appreciation for the other branches of the armed forces.

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**He that can enjoy the intimacy of the great and on no occasion disgust them by familiarity or disgrace himself by servility, proves that he is as perfect a gentleman by nature as his companions are by rank.—Colton.**

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# Oklahoma Military Academy

## Cavalry Unit

*By Lieutenant Cullus M. Mayes, Cavalry*

### I

THE Oklahoma Military Academy, owned by the State of Oklahoma, is an essentially military Institution. The college section embraces the first two years of college, while the high school section includes the last three years of high school. Only excellent high school sophomores are admitted. It has a classification of M-I by the War Department. It was established by an act of the State Legislature in 1919 and although a military school, had no War Department Unit until 1924 when the usual Junior Unit was established. This continued until 1930, when its status was changed to Senior and a Cavalry branch was established. Both Cavalry and Infantry were carried concurrently until 1934, when the Infantry Unit was abolished for lack of students. Its "Honor School" rating was first given in 1932 and has been maintained without interruption.

Thus the growth has been progressive throughout. The present Unit consists of three Officers, twenty-one enlisted men and ninety-five horses, with the full equipment necessary for training. As an essentially military school, it is conducted as much as possible along the lines of the United States Military Academy. All cadets must be members of the R.O.T.C., under military control and discipline at all times.

The type of cadet is excellent Cavalry material, both mentally and physically. Both the tradition of the country and the temperament of its people are those of horsemen. At the average age of eighteen the normal height is 5' 10" and the weight is 154 pounds. As a majority of the cadets are well accustomed to horses and have ridden the greater part of their lives, the usual problems of this automotive age have been solved before the cadet arrives. This allows more time for the novice minority and insures rapid progress with the majority who are thoroughly accustomed to horses.

### II

The Academy is located in northeastern Oklahoma, about one mile west of the city of Claremore and is adjacent to the Will Rogers Memorial. The Campus occupies a plateau about one hundred feet above the valley of the Verdigris river and 630 feet above sea level. Extending west from the campus proper, on which the buildings are located, is a reservation of approximately 260 acres of rolling country interspersed with woods. It is well adapted to "Russian rides" and possesses many natural obstacles. These features of the ground enable the cadets to be conveniently and thoroughly trained in cross country riding as well as Cavalry combat. There is an excellent level mounted drill field opposite the

stables which is used as a practice polo field and an outdoor riding hall for equitation. The parade ground and drill field are adjacent to the buildings as are several dismounted drill fields.

This country is excellent from a climatic and topographical point of view. The winters are open and rain seldom interferes with the training program. Hard surfaced roads are supplemented by numerous dirt roads which facilitate marches and problems off the reservation. The numerous hills afford excellent observation and the varied terrain concealment of troops by an alert commander, with the Verdigris River and its tributary streams which present natural obstacles which must be overcome.

The country around Claremore is farming and range land, and the inhabitants very cooperative with any phase of military training.

### III

The Academy was planned with a view to its gradual expansion. As a result of this far sighted policy all buildings are convenient to each other and all can accommodate twice the number of cadets that the present two sets of barracks allow (three hundred). Buildings are of brick fireproof construction, are modern in every detail, and are heated with steam. Those which are used by cadets will be briefly described:

**The Academic Building.** The Original building of the Academy. Contains the Administrative offices, library (lighted by fluorescent light and containing 5,000 volumes), laboratories and seventeen classrooms.

**The Meyer Barracks.** Built in 1930. Houses the second Squadron—two cadets to each room, one troop to a floor. Indoor troop instruction can be given in each troop area.

**The Markham Barracks.** Built in 1927. The Cadet Staff and First Squadron are quartered here, one troop to each floor. The original gymnasium in the basement is now used as a secondary intramural area in bad weather.

**The Mess Hall.** Built in 1924, between the two barracks. Dining room, kitchen, storerooms and a pastry kitchen are all on one floor.

**The Auditorium.** Built in 1936, has a seating capacity of nine hundred, also contains the Commandant's office and reception lobby on main floor. The Post Exchange, recreation rooms, barber shop and band room are in the basement.

**The Field House.** Built in 1936, an unusual building. The northern section contains the P.M.S.&T.'s offices, three large, well lighted classrooms, the Armory





OKLAHOMA MILITARY ACADEMY.

*Top:* Administration Building from South Barracks. *Bottom:* North and South Barracks. Building between is mess hall.

and storerooms. It consists of two stories and a basement and is used for no purpose other than Military. The central section is the gymnasium, 110 x 70, with the athletic equipment rooms. In inclement weather, indoor instruction, including dismounted drill, is given here as rifles and equipment do not have to be taken out of

the building. The south section is 27 x 74 swimming pool with showers, lockers and dressing rooms at its east end.

The Stables. Built in 1930, are of brick with concrete standings. Quarters for the unmarried men of the detachment, saddler's shop, saddle room and grain room



are in the stables proper. The forage shed and shoeing shop are conveniently nearby, but sufficiently distant so that no fire hazard will be created.

There is also an excellent indoor heated rifle range that can be used the entire year for rifle marksmanship, musketry and other training of that nature.

The Infirmary. Built in 1927, is a modern, two-story building completely equipped for all normal medical needs. It houses the medical staff and accomodates eighteen bed patients in its eleven rooms.

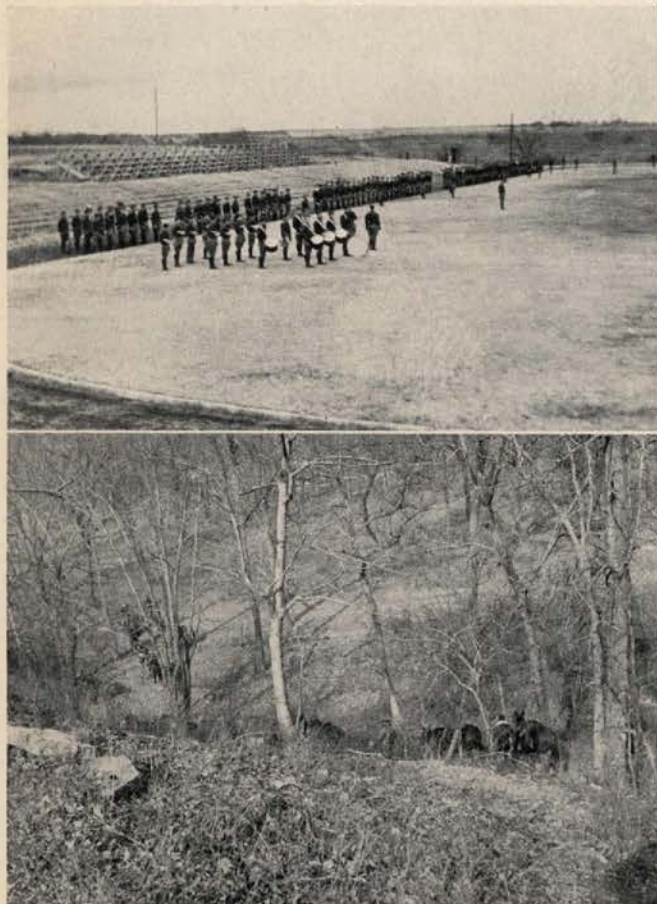
The President, Commandant, P.M.S. & T. and three senior faculty members have quarters on the campus.

The Athletic Field, constructed in 1937, has sub-surface drainage and is used for ceremonies and training when ground conditions are not favorable elsewhere.

#### IV

The academic objectives of the Oklahoma Military Academy are:

1. To give the student of junior college status a sound and thorough education corresponding to the first two years of a four year college course. He will pursue the proper curriculum to enter the third year of college as well or better grounded than in the first two years of a senior college. Should he take a terminal course here, he will have the proper groundwork for an entry into the business world.



Terrain is well suited to Cavalry instruction.

2. To correct, by remedial courses, those deficiencies usually found in the student's basic education and to offer essential courses absent from the curriculum of the smaller schools. It is often necessary to completely rehabilitate the student who has been allowed to avoid the mathematical and scientific subjects and who finds later that he wishes to pursue a course requiring these subjects.

3. To give the student of high school status a thorough basic education and to guide him toward a profession to which he is adapted. Great care is exercised that a balanced proportion of Arts and Sciences are taught so that the student will be properly prepared for college or to enter business at the termination of high school.

The President, Captain John C. Hamilton, USA, Retired, is a graduate of the United States Military Academy, class of 1918, and spent his entire seventeen years of service in the Cavalry, both horse and mechanized. He was an instructor at West Point from 1924 to 1928 and has a thorough knowledge of deficiencies usually found in first year cadets. The courses and methods of instruction are patterned along the same lines and, in some cases, are identical with those of the U.S.M.A.

Accuracy and thoroughness are demanded in all academic work. Methods of study are taught. The system is an immense aid in teaching courses in Military as the need for exactitude is impressed on the cadet in every phase of his endeavor and his life here.

The result of misplacing a decimal point or writing an ambiguous or involved paragraph is kept before the cadet at all times and is translated into possible loss of life or battle. From an engineering or military point of view, method without accuracy is worse than ignorance.

Almost all courses found in the first two years of West Point are carried here, as well as some of the third year courses.

The curriculum was completely revised and modernized in 1934. Courses of doubtful value were eliminated and those of mathematical and scientific application to the present world conditions were added. The Academy is a member of the North Central Association of Colleges and Secondary Schools and cadets are admitted to West Point and Annapolis with a physical examination only.

#### V

##### Physical Development and Training.

All Senior R.O.T.C. cadets should be organically sound, irrespective of whether they be Basic or Advanced. If this is not required, a large number of rejections will take place when the physical examinations for the Advanced Course are held at the beginning of the third year. Also, throughout the entire four years, the Institution's loss through illness will be kept at a minimum.

Beginning this year, cadets were examined thoroughly and any who were not fairly certain of being



suitable Advanced material were rejected. This should reduce waste to a minimum and a small fraction of what it has been in previous years, as well as facilitate training.

Due to the automobile it has long been realized by the War Department that the physical quality of our manpower was on a rapid decline and the present emergency has amply proven their fears. Although a large proportion of the cadets are excellently developed when they are admitted, a progressive physical development schedule is carried out during the entire time the cadet is here.

New cadets enter one week before the Corps returns. During this time they are trained by a selected detail of Military III's and IV's under the supervision of the Commandant's Department and Director of Athletics. This is a period of organization and hardening the new cadets. During the first month the Corps is progressively hardened so that by October first the entire academic, military and physical program can be carried without undue strain.

Physical development activities may be divided into five groups:

1. Corrective work under the Athletic Director. Here the cadets who have shown deficiencies in the physical examination (such as posture, lack of chest expansion, lack of development in any member) are given specific exercises under his supervision.

2. The new cadet system forbids hazing and is taken directly from West Point. New cadets are required to double time and "brace" for cadet officers and non-commissioned officers only, and maintain a correct posture at all times.

3. Intramural athletics, a normal formation for one hour each afternoon, are required of all cadets not on a Varsity squad. Rotation is required so that all cadets will learn each of the more common sports.

4. Varsity athletics are restricted to cadets who are proficient in both academic work and conduct. Sports include polo, football, basketball, boxing, tennis, baseball and wrestling.

5. Free time. In such free time as he has, cadets utilize the facilities for privilege riding, swimming, tennis and golf.

## VI

Military. The Commandant's and P.M.S. & T.'s Departments are maintained separately but are thoroughly coordinated. A member of the latter is Commandant, thus uniting these two essential functions as both are so closely related in their objectives; i.e. to turn out the best officers possible.

Due to the essentially military nature of the Academy, the P.M.S.&T. receives far more hours than is required by regulations. The Basics have a minimum of seven hours per week on school days, and the Advanced nine. With four hours Saturday morning for field training, the totals are eleven and thirteen respec-



Showing type of cadets.

tively, exclusive of field inspections, parades and ceremonies.

As the curriculum for Senior R.O.T.C. Cavalry Units is prescribed by the War Department and is well known to all Cavalry Officers, no attempt will be made to cover it. Only salient points of the training here will be considered.

The Saturday morning field training period is from eight until noon. This was instituted in January and will be continued in next year's schedule. The advantage of having a continuous four hour training period needs no explanation. All of us have sensed the futility of starting an exercise in the usual hour period and finding that we have to neglect proper emphasis on details so that the class may be brought in at the proper time. Even here, where the field area adjoins the stables, the normal period was just insufficient. This Saturday morning period may be divided into three one hour and twenty minute periods, two two-hour periods or one for the entire morning.

Field inspection is at 1:30 PM Saturday, Barracks inspection at 9:00 AM Sunday morning and parade at 4:00 Sunday afternoon. These last two formations are conducted by the Commandant's Department.

As training films take about thirty minutes, these are shown in the Auditorium between the supper and evening call to quarters. This allows the P.M.S.&T. to utilize the 11:30 AM—12:30 PM week day period in full.

This section of Oklahoma has open winters and very



few days are lost from inclement weather. However, the installations here allow indoor training in almost every phase except riding.

The Indoor Range, 80 x 32, is used during the entire year for marksmanship, musketry and competitive rifle shooting. Rifle marksmanship is one of the most popular activities in this section of the country and the Academy won the Senior R.O.T.C. championship of the Eighth Corps Area in 1941.

Calesthenics are under the Director of Athletics, but Advanced students are trained by him to give these exercises. Gymnasium formations are made by troop or squadron under their own officers.

As the number of inclement days is fairly constant from year to year and the hours allowed by the Academy far above normal, a little planning insures full utilization of bad weather. Lectures, stable management and technical work can be taught at such times to allow the fullest amount of field training, riding and outdoor work during the long periods of favorable weather.

### SUMMARY

The advantages the R.O.T.C. enjoys at the Oklahoma Military Academy are:

1. Full coöperation from the authorities with complete understanding of the P.M.S.&T.'s problems.
2. Complete integration with the Institutional plan. The Military Department operates as an Academic Department and the P.M.S.&T. sits as a member of the Academic board.
3. The curriculum, teaching methods and standards are conducive to the making of an excellent officer.
4. Integration of the Commandant's and Military Departments assure excellent discipline and training in handling men.
5. Climatic and topographical conditions lend themselves to maximum outdoor training.
6. Installations are more than ample for all purposes.
7. The Academy authorities are as anxious as the Military that the best possible officers are graduated.

#### 100% Officer Membership in the U. S. Cavalry Association

2d Cav. Div. Hq., Maj. Gen. John Millikin,  
Comdg.

2d Cav. Brig. Hq., Brig. Gen. Chas. H. Gerhardt,  
Comdg.

92d Rcn. Sq., Capt. Caesar F. Fiore, Comdg.

8th Cav., Col. Chas. S. Kilburn, Comdg.

1st Cav. Tr. (Rcn.) (Sep.), Capt. W. V. Martz,  
Comdg.

1st Rcn. Tr., Capt. Russel D. V. Janzan, Cmdg.

2d Rcn. Tr., Capt. Anthony F. Kleitz, Comdg.

#### 98% Officer Membership

1st Cav. Div. Hq.

1st Cav. Brig. Hq.

3d Cav. Brig. Hq.

4th Cav. Brig. Hq.

691st Tank Destroyer Bn.

3d Rcn. Tr.

3d Cav.

4th Cav. (H-Mecz)

7th Cav.

9th Cav.

102d Cav. (H-Mecz)

104th Cav. (H-Mecz)

106th Cav. (H-Mecz)

107th Cav. (H-Mecz)

12th Cav.

112th Cav.

#### Directions for Modification McClellan Hooded Stirrups

- 1—Remove hood from stirrup by punching out all rivets.
- 2—Reduce the width of the bottom of the stirrup from 4½ to 3 inches by sawing off the tapered portion of the front of the stirrup, as follows:
  - a—Mark a line on the bottom of the stirrup 3 inches from and parallel to the back edge of the stirrup.
  - b—Continue this line up on the sides of the stirrup, intersecting a point approximately 1/16" from the edge of the crescent washer located near the top of stirrup.
  - c—Cut off excess portion using line as a guide.
  - d—Round all edges on front of stirrup with a wood file similar to the edges on back of stirrup.

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Nothing is more important in war than unity in command.—Napoleon

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# Horse Feathers



## Thumbs Down!! Japs—Germs—Its

TROOPER I: "Jane's a nicely reared girl, isn't she?"

TROOPER II: "That ain't hay—and not so bad from the front either!"

A pedestrian is a father with a son home on furlo'.

"If brevity is the soul of wit, my gal's skirt sure is a wow. She looks like she was poured in it and forgot to say 'when'—and it's one joke I can see through."

PROUD MOTHER: "My Elmer joined the cavalry only two months ago and already is a four letter man—AWOL. Isn't that grand?"

TROOPER: "Do you shrink from kissing?"

WHOOPER: "No, if I did I'd be nothing but skin and bones."

SERGEANT INSTRUCTOR (exasperated): "The stork that brought that John should be arrested for smuggling dope!"

Luck is a good word if you put a P before it.

THE YOUNG THING: "Oh, I see, the chin strap is to keep the funny hat on!"

TROOPER: "Yeah. Funny hat! Well, you're wrong, Sis. It's to rest the funny jaw on, see?"

You can generally tell what a trooper is by what he does when he has nothing to do.

If you have a good temper, keep it;  
If you have a bad temper, don't lose it.

PROUD NATIVE: "What do you think of our town?"

TROOPER: "It certainly is unique."

NATIVE: "What do you mean unique?"

TROOPER: "It comes from two Latin words—'unus' meaning one, and 'equus' meaning horse."

## Guerrillas

PVT. BULLNECK: "Say, Sarg! This gorilla warfare I've been readin' about sure appeals to me."

SERGEANT: "Gorilla warfare would appeal to YOU—you ape."

Often, the difference between a wild horse and a tame horse is *two bits*.

"Say, Trooper, how long is your car going to keep stalling like this?"

"Just as long as you do, Whooper."

## Investigate!

Some day there's going to be an investigator appointed to investigate the investigation of an investigating committee appointed to investigate the investigators of an investigation.

LADY: "I know you have pet names for the big guns, but what do you call the shells?"

TROOPER: "Depends on how close you are to where they bust, mum."

"My gal wuz up at de dance las' night wid anuther trooper."

"And what did you do, Private Bones?"

"I cut her acquaintance, yassuh! I sure cut 'im good and plenty!"

When asked about what, in his many battles, had struck him most, Veteran Trooper replied, "Sure, and what struck me most was the many bullets flying around that didn't strike me."

RECRUIT: What do I do if I lose control of this jeep?

INSTRUCTOR: Hit something soft and inexpensive.

"Who is that gal with the French heels?"

"That's my sister, but those *heels* with her ain't French."

LADY: "Is that a blooded horse?"

TROOPER: "It sure is. Oscar, bleed for the lady!"

---

The Service and the Loyalty I owe, in doing it, pays itself—Macbeth

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# NONCOM QUIZ\*

WHERE other quizzes have dealt with specific phases of tactics, this one is much more general and includes questions on Reconnaissance, Security and Offensive and Defensive Action. Score 11 points for each whole question answered correctly. A perfect score is 99, and 74 is the lowest passing grade.

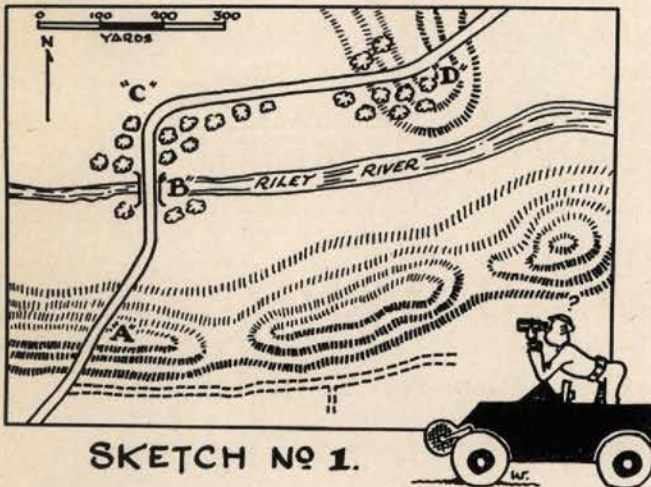
After answering all questions refer to a solution on page 92.

## TEST

### Questions

1. You command a scout-car platoon of a reconnaissance troop on a reconnaissance mission. Your platoon is moving north along the road shown on Sketch No. 1. Your point, at "A," observes the bridge 200 yards to its front and notes the right-hand turn in the road 100 yards beyond.

Explain briefly your method of reconnoitering and crossing the bridge with your platoon.



2. After the platoon crosses the bridge the point car cautiously approaches the turn (Point "C," Sketch No. 1), observes carefully in the new direction and, upon orders from the platoon leader, proceeds toward the ridge at "D." When about midway between "C" and "D" the point car receives heavy machine-gun fire from enemy at "D." The road is too narrow to permit the car to turn around in time to escape the ambush.

Briefly, what would be your plan, or method of employing the rest of the platoon to assist the ambushed car?

3. You command a front-line interior rifle troop, the platoons of which have just completed physically occupying their assigned defense areas and coordinating their fires. No contact has yet been made with the

enemy but from rumors you believe there may be some in less than an hour. Some engineer tools were dumped in your defense area and the bulk of the men of the platoons are ready to use them. You must decide whether the first priority in work with the tools will be:

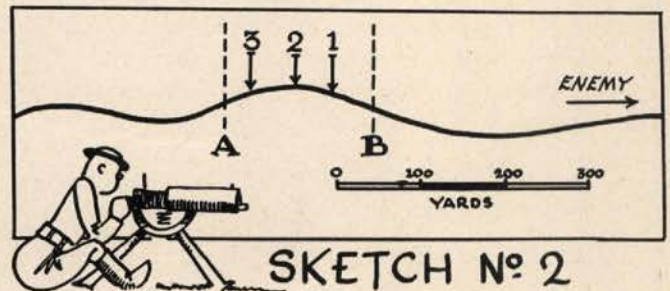
a. Measures for maintaining fighting power of the troops, such as constructing fox holes and slit trenches, or

b. Measures for increasing the effect of fire, such as clearing fields of fire.

Which do you decide?

4. The area assigned to your troop to defend is part of the initial delaying position assigned to the Squadron, and includes both the forward and reverse slopes of the geographical crest, between "A" and "B" in Sketch No. 2. Indicate at which point (1, 2 or 3) you would locate a machine gun attached to your platoon so as to have "position defilade."

b. If the gunner were located so as to have "position defilade," would he be able to see his target or targets?



5. Consider a rifle troop attacking as an assault troop as part of a larger force in a dismounted attack. This troop has been able to maintain its expected rate of advance. An adjacent troop has been held up by the strength of the enemy resistance. How would you assist the troop that has been held up?

6. a. Name the three tactical groupings into which a troop is generally divided in the offensive.

b. Describe briefly the composition and purpose of each.

7. A troop commander (Sketch No. 3) has issued an order for a mounted pistol attack on the enemy column shown at "A," the attack to be in two waves.

a. What is the position of the troop commander during the attack?

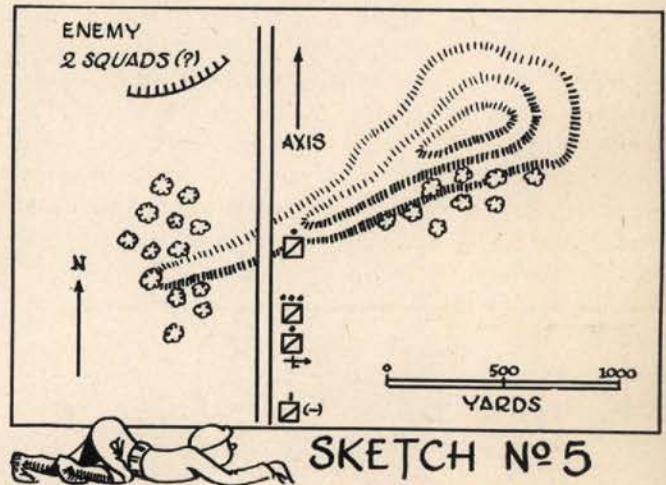
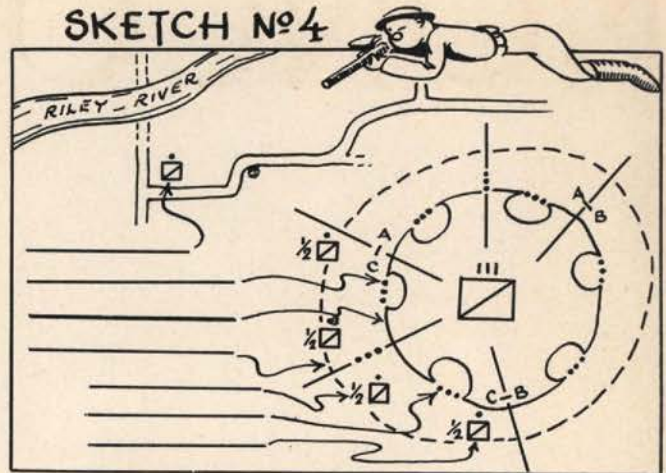
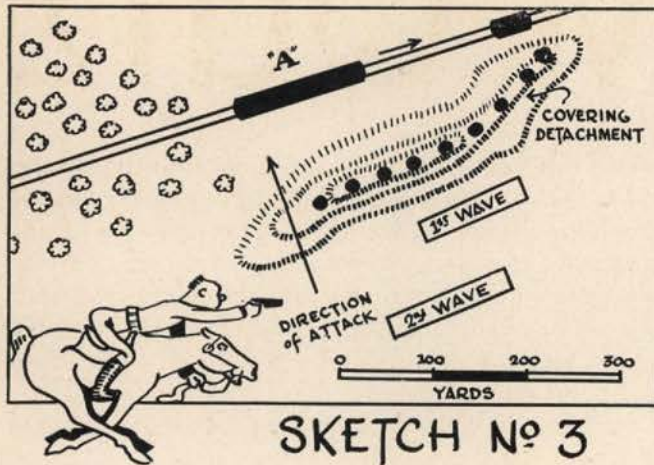
b. What is the approximate distance between waves during the attack?

c. Where would be a suitable position for the LMG platoon?

d. What is the action of the covering detachment during the attack?

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





8. Your regimental commander decides to bivouac for the night, selects the area and assigns sectors for the outpost. Your squadron commander assigns sectors of responsibility to the troops of the squadron.

Indicate on the appropriate blank space (Sketch No. 4) the names of subdivisions of the outpost. Where a subdivision is numbered, indicate the number.

9. Your platoon, with one LMG squad attached, forms the *advance party* of an advance guard in which the balance of the troop comprises the advance guard support. Your point of one squad (see Sketch No. 5) has just been stopped by hostile fire. With the situation as shown on the sketch, what is your plan of action?

# A Modified Pup Tent

*By Lieutenant John R. Lane, 1st Cavalry Brigade*

HERE is a boon for junior officers since the revised table of basic allowances eliminated the small wall tents for troops and officers below the grade of a field officer.

The modified pup tent illustrated was conceived by the author prior to and used during the Third Army maneuvers in Louisiana and met with great success in all kinds of weather under varied conditions.

The tent was made by adding a two foot extension to the length, three foot side walls, and full front flaps to

an issue pup tent. Button flaps were installed at all corners, the end, and front for rolling up any section or for securing during bad weather.

Materials used were ten salvage shelter halves, eleven issue tent ropes, and ten large, or regular tent pegs. The pieces were cut out by the author and may be assembled by any saddler or commercial tent maker.

This makes a tent 5 feet, 9 inches high, 7 feet, 6 inches wide, and weighs about 20 pounds.

NOTE: For further particulars write to the author.





# NONCOM QUIZ--A Solution

(Concluded from page 91)

1. The platoon leader goes forward in his car to join the "point" car at "A." The cars are placed behind the crest so that the occupants can observe the bridge from the cars. A more detailed observation may be made dismounted from positions along the crest on either side of the road if necessary.

This observation having disclosed no evidence of enemy, the platoon leader orders the "point" car to proceed to the bridge to make a detailed inspection, and cross under protection of the platoon leader's car from "A." The "point" car advances slowly down the hill, and off the road to cross the open ground, and approaches the bridge from the left (west) flank. Halting his car, the car commander and a rifleman dismount near the bridge and go forward to make the inspection.

Having satisfactorily completed the reconnaissance and inspection, the "point" car then crosses the bridge, moves on to the turn at "C," observes the high ground at "D" and proceeds on to that point to cover the crossing of the platoon leader's car, which would remain on the ridge at "A" until the point car reaches "D." Succeeding cars of the platoon would then follow the platoon leader's car, by bounds, and the patrol could continue on its mission.

2. From his position on the hill at "A" the platoon leader observes the enemy fire from "D." Quickly estimating the situation, he orders the guns of his own car to open fire on the enemy position and signals for the 2d section to come up. Briefly explaining the situation, and pointing out the enemy position at "D," he orders the 2d section to move rapidly under cover of the ridge to a position approximately 500 yards east of "A" and attack the enemy flank and rear by fire from a covered position along the crest. This plan of action offers maximum support to the ambushed car without exposing the other cars of the platoon to the danger of being ambushed.

3. B is correct (See par. 635, FM 100-5).

4. a. Gunner located at (3) would have "position defilade."

b. Gunner would not be able to see his target or targets.

5. The advancing troop pushes forward to its objective, thus exposing the flanks of the enemy resistance. It then continues its assistance by bringing fire on, or attacking, the flanks and/or rear of the enemy position.

6. a. Main attack, secondary attack, reserve.

b. (1) Main attack consists of the bulk of the force and strikes at the enemy's weak point.

(2) Secondary attack consists of the lesser part of the force. It is employed to neutralize enemy fire and movement, to deceive the

enemy as to the direction of the main blow, and to assist in the capture of the principal objective by seizure of adjacent key terrain.

(3) The reserve—one-fourth to one-half of the command held out against unforeseen circumstances, to exploit the success of other attacking units or to extricate the command from dangerous developments.

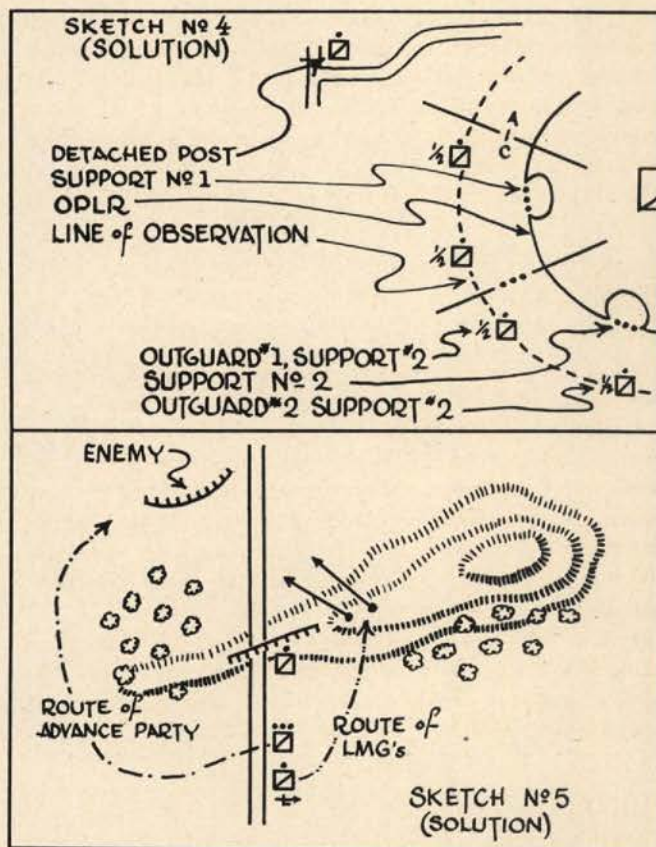
7. a. Leading the second wave.

b. Seventy-five to 100 yards.

c. On the ridge.

d. Split and form combat patrols on either flank.

8. (Sketch No. 4—solution.)



9. (Sketch No. 5—solution.)

Prompt aggressive action is required. The platoon leader with the LMG squad leader gallops up to the point, observes and estimates the situation. He instructs the corporal in command of the point to place heavy fire on the enemy patrol and informs him that an attack will be made against the right (west) flank of the enemy. He directs the LMG corporal to place his light machine guns on the ridge, as shown, and to support the attack. The platoon leader then rapidly returns to and leads his advance party around to his left and attacks the hostile patrol, mounted.



## Book Reviews

**REMEMBER PEARL HARBOR!** By Blake Clark. New York: Modern Age Books, 1942. 127 pp.; \$1.25.

The author, for the past twelve years has been Assistant Professor of English at the University of Hawaii. He knows the Pacific, has visited all of the Hawaiian Islands, and wrote the recent, much praised *Paradise Limited*—an informal history of the fabulous Hawaiians.

When the bombing started, December 7, 1941, Mr. Clark was at breakfast. What happened from then on he describes what he believed all Americans should know. Although submitted for censorship, it is the first full detailed account of what really happened on that fateful Sunday morning at Pearl Harbor when the infamous Japs attacked the United States.

Read this book, and you will *never forget Pearl Harbor!*

**BOMBS AND BOMBING.** By Willy Ley. New York: Modern Age Books, 1942 (second printing). 124 pp. \$1.25.

Mr. Ley gives the reader what every civilian should know about all the various types of bombs—high explosives, incendiaries, gas, land mines, “bread baskets”—their contents and effects—what each is intended to do—civilian demoralization, military destruction—the bombardier’s techniques and difficulties—bomb sights, psychological strains, level and dive bombing; and the various types of defense—AA guns, balloon barrages, air-raid wardens, etc.—in simple, clear words and line drawings, for the thousands of volunteers in the Civilian Defense Program and for the plain citizen who wishes to understand the news dispatches from Europe’s capitals by an authority on explosives and incendiaries, the Science Editor of *PM*, Willy Ley.

**WAR ECONOMICS.** Edited by Emanuel Stein and Jules Bachman. Farrar & Rinehart, Inc. New York. 501 pp. \$3.00.

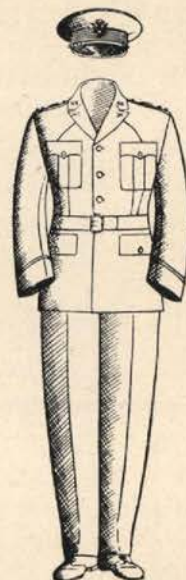
The author covers just about everything that the subject implies.

World War I for us did not last long enough for the American economy to feel the full impact of a prolonged war. We entered the present war, however, with a much greater awareness of the implications of war for our economic way of life; far more than ever before Americans now realize that a large-scale conflagration must have profound repercussions on every phase of economy; whole industries have to be organized, others disrupted and all find their activities subjected to government control.

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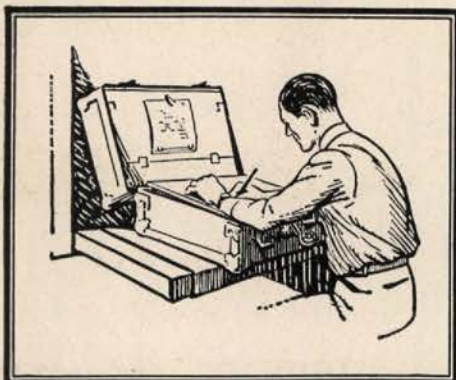
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FLIGHT IN WINTER. By John Clinton Adams. Princeton University Press, Princeton, N. J. 1942. 281 pp. \$3.00.

This volume contains a lesson for America. It is a story of human fortitude. It is the heroic account of the Serbian Retreat of 1915.

This is a book for today, and especially for all who believe in the unconquerable fortress of the human spirit. They knew they were going to defeat, but the Serbs literally were men who preferred death in a battle for faith and freedom, to slavery. They followed a great tradition. They did not deny their heritage!

This book has a tremendous appeal to military readers.

↑ ↑ ↑

HISTORY OF THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES, 1891-1941. By Colonel Edgar Erskine Hume, Medical Corps, United States Army. Washington: The Association of Military Surgeons. 371 pp.; Well Illustrated; \$2.00.

The author deserves special recognition for this authoritative, comprehensive and painstaking achievement.

This volume belongs in the library of every member of the medical profession. It contains portraits of all of the Presidents of the Association from the beginning and all of the Secretaries and Editors of *The Military Surgeon*. Likewise, it contains many other pictures of what has transpired at the annual meetings of the Association and abstracts of the more important papers that have appeared in *The Military Surgeon*. Finally there is a General Index, from 1891 to 1941 inclusive, of the articles in *The Military Surgeon*. The only ones omitted from this Index are those of transient value of purely clinical interest. Everything pertaining to military medicine as a specialty is included. This apparently is the first history of the kind ever published for, or by a branch of the Army.

↑ ↑ ↑

THE JAPANESE ENEMY, HIS POWER AND HIS VULNERABILITY. By Hugh Byas. Alfred A. Knopf. 1942. 107 pp. \$1.25.

The author is the well known correspondent for *The New York Times*. He feels that it is only by a knowledge of Japanese ambitions, emotional orientations and institutions that we shall come to know the strength and vulnerability of the Japanese enemy. From his unique knowledge of the Japanese Empire he tells how the Japanese mind works, who are the real rulers of the nation, what is their plan for this war, and what we must do to defeat our enemy.

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JAPAN'S INDUSTRIAL STRENGTH. By Kate L. Mitchell. Alfred A. Knopf. New York. 1942. 140 pp. \$1.50.

This is an authoritative work prepared under the auspices of the International Secretariat, Institute of Pacific Relations. It reveals the extent to which we have underestimated Japanese power and suggests what we may expect in



the future. Completed only a few weeks before the outbreak of war, it embodies the latest information on the subject from both Japanese and English sources.

It is a compact and useful handbook.

1 1 1

#### MILITARY LAW AND DEFENSE LEGISLATION.

By A. Arthur Schiller. West Publishing Co., St. Paul, Minn. 1941. 700 Pages. \$5.00.

During war the lawyer is constantly faced with problems that are tied up with military law or the related fields of emergency, defense, or war-time legislation. The law schools are beginning to meet these conditions by adding courses on military law. This up-to-the-minute text is designed for just this purpose. It is a teaching book that adequately covers the field.

The book opens with a consideration of the constitutional extent of military power. Then follows a chapter devoted to the organization and composition of the Army of the United States. Chapter III discusses military law proper and opens with a survey of the sources of military law, followed by cases devoted to military jurisdiction and its relation to civil jurisdiction. The final chapter is devoted to the civil rights of the soldier, based primarily on sources relating to the Civil Relief Acts of 1918 and 1940.

The Articles of War, the Selective Training and Service Act of 1940 and the Soldiers' and Sailors' Civil Relief Act of 1940 are to be found in appendices, while indexes of cases, opinions, legislative and administrative materials, and a subject index complete the whole.

1 1 1

ARMY TALK. THE LANGUAGE OF U. S. SOLDIERS. By Elbridge Colby. Princeton University Press. Princeton, N. J. Illustrated. 232 pp. \$2.00.

This book is for the friends and relatives of soldiers so that they might understand the strange and colorful means of communication known as "army talk."

Some "cleaning up" of the language obviously was necessary for publication, but the author retains the rich human interest and spirit of the U. S. Army.

*Army Talk* includes slang terms of both ancient and recent origin, official and technical terms that have passed into general army speech; also, new terms since 1940 that have not yet gained general acceptance.

This is the first serious effort to present not merely a casual glossary but a "familiar dictionary" of the expressive speech or jargon of the American soldier.

1 1 1

SOME COMMON DISEASES OF THE HORSE. By George H. Conn, B.S.A.H., D.V.M. Orange Judd Publishing Company, Inc. New York. 1942. Illustrated. 187 pp. \$1.50.

While this book is directed mainly to civilians who own farm and saddle horses, it is also useful to the mounted services. It contains brief and practical advice on the nature, cause and treatment of disease, the common ailments and the care and management of horses when sick. In other words, it is an excellent elementary course in hippology, and other relative material.



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# FACING REALITIES



The Cavalry Journal consistently has endeavored to impress upon *everyone* the urgent necessity of utilizing horses in war—commercially and militarily.

The United States has the greatest horse and mule reserve in the world!

It seems utterly incredible that the general public, in particular, seemingly nourishes an antipathy for the horse, possibly because of the general impression that the "horse and buggy days" smack of obsolescence in our now over-motorized age. Where is our true sense of values? The automobile has been publicized and propagandized in the civilian mind to such an extent that the use of the horse in any manner now seems completely beyond the mental range of the public at large.

Like it or not, the present transportation problem in the United States is critically acute and is becoming more so, daily. The rubber-gas crisis already has arrived and found commercial motor transportation facilities totally unprepared for the emergency, although horse and mule power obviously is the solution to the short-range transportation problems. Related concerns,



therefore, such as vehicle, harness, shoeing shops, livery stables, etc., must *set the stage* now for the full commercial use of animals.

As to the military use of animals, the contemporary "victorious" armies of Germany, Russia and Japan have used animal transportation wherever and whenever possible to conserve gasoline and rubber. This is just plain common sense; it permits a more balanced use of resources. Horses are employed in combat because *only* horsemen can quickly and thoroughly search out all manner of terrain especially under adverse weather conditions. In combat *nothing* can replace the horse for the purpose for which his use is intended!

The *Jeep* is our most valuable motor vehicle *for reconnaissance*, but as a transport vehicle it unquestionably is the most extravagant of all motor trucks in proportion to the gas and rubber expended.

It is a proven fact that the commander who possesses good cavalry divisions has a distinct advantage over one who has none. Witness, Russian cavalry at Rostov—the first major German retreat along the Russo-German Front—November 28, 1941!

Let us face realities! It should never be charged that for lack of foresight *we* might have *too little* Horse Cavalry maintained at peak efficiency—and have it arrive *too late*—should the Axis strike south of our southern frontier in conjunction with a thrust to our north!



# The UNHOLY



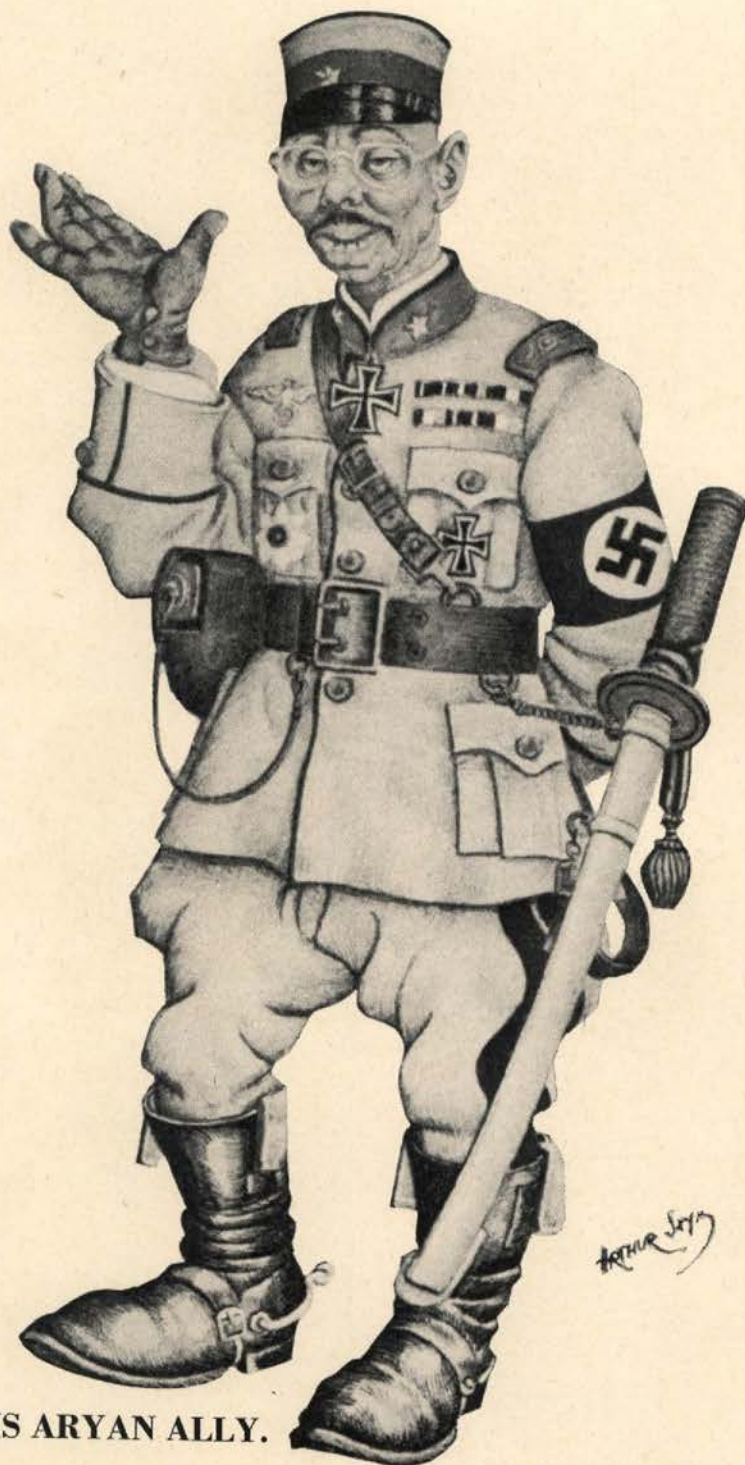
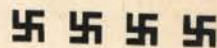
"THERE MUST BE SOME EXPLANATION!"



"WAR OF NERFS! JAWOHL!  
—BUT AMERICANS HAF NO NERFS!"



# ALLIANCE



AXIS ARYAN ALLY.

EDITOR'S NOTE: These cartoons, from his book "The New Order," are reproduced by courtesy of the internationally famous Polish artist, Mr. Arthur Szyk.



# Japanese Grand Strategy

IN 1909, Homer Lea, the frail American hunchback who became a Lieutenant General in the Chinese Republican Army, startled the military world with his amazing book, *The Valor of Ignorance*,<sup>1</sup> proclaiming Japan's war-like intentions toward the United States. In extraordinary clarity, by word and map, he outlined the inevitable conflict and the course that Japanese aggression would take. By some, he was acclaimed as the greatest military mind of the century; but by the majority he was declared a visionary, denounced as a war-monger—just another crack-pot! In Japan, however, his book was *required reading* by officers in all the services.

Today, military prognosticators are uncomfortably aware of the fact that Lea's *Estimate of the Situation* was sound, as evidenced by Japan's close adherence to his prophecy.

\* \* \*

Japan's military and naval strategy since December 7, 1941, in general, has been well pictured by the press, but the questions that are asked most often are: "What lies behind Japan's strategy?" "Why are Japan and Germany allies?" "Where does Russia fit into the present picture?" To reach the root of such considerations one must turn back to the late 1920's and early 1930's when Japan's policies affecting the present situation became definitely crystallized.

In perusing the vast quantity of data on this subject we found a book in the Army War College Library which probably is the most revealing and enlightening volume available, i.e., *When Japan Goes to War*, by O. Tanin and E. Yohan (co-authors also of *Militarism and Fascism in Japan*). Unfortunately, this book, published in 1936, is now out of print, but *International Publishers*, New York, in fine coöperation, authorized us to present a condensation, mainly by means of excerpts, of the "meaty," 55-page introduction, which throws considerable light on the strategic events leading up to the present conflict—as follows:

## BACKGROUND

The program of Japanese aggression—i.e., the establishment of the undivided rule of Japan throughout colonial Asia, usually expressed in the terms "Asia for the Asiatics," "Pan-Asia," or "The sacred mission of Japan to preserve peace in Asia"—was frankly enunciated in the late 1920's and early 1930's, not only in numerous articles by Japanese journalists but in a series of state documents.<sup>2</sup>

A study of the history of Japanese aggression from the

time of the Sino-Japanese war of 1894-95, and an analysis of the last period of that history, 1931-34, reveal that the continental and maritime trends of Japanese aggression were so closely interwoven, that they could not be regarded in isolation from each other, and that every success achieved by the one trend inevitably necessitated further steps by the other.

Japanese plans, however, were not confined to China. The time had not yet arrived for armed force, but the prerequisites for the further struggle for the extension of Japanese positions were already being created.

While the tentacles of Japanese imperialism stretched towards the Soviet Far East, to the Mongolian People's Republic, to the Soviet Republics of Central Asia and to Baku, to the Panama Canal, Hawaii, Singapore and Suez, intense war preparations were made in Japan, in Manchuria and in the mandatory islands. The Japanese stopped at nothing in ruthlessly pushing their program. With bomb and revolver the militarist removed from his path not only former Chinese allies (Chang Hsueh-liang and Wu Ching-cheng but even representatives of the Japanese bourgeoisie suspected of lacking patriotism (Hara, Hamaguchi, Inukai, Dan, Inouye, Muto and others).

Everyone remembers that the success of Japanese shipping and Japanese foreign trade throughout the Pacific during the World War stimulated Japanese imperialism to attempt to seize the wealth of mining and raw materials in Shantung. The policy of the "Twenty-one demands" and the Nishihara loans in China developed simultaneously with the preparation, and later the enforcement, of intervention in Siberia.

In the beginning, the occupation of Manchuria in 1931 was followed by the advance of Japanese troops in Chingchow, the attempt to seize Shanghai, the increase of Japanese activity in North China, and the increased pressure upon the Nanking government. To the extent that Japanese imperialism consolidated its positions in Manchuria; its propagandists talked more and more about the further plans of Japanese aggression. In 1932 the *Japan Times*, semi-official organ of the Japanese Ministry of Foreign Affairs, wrote:

"Manchuria is the life-line of Japan, but the source of her raw materials and the market for her manufactured goods is far to the South of this territory, in the regions which constitute South Asia, the Malay States, the Dutch East Indies and the South Sea Islands. . . ."

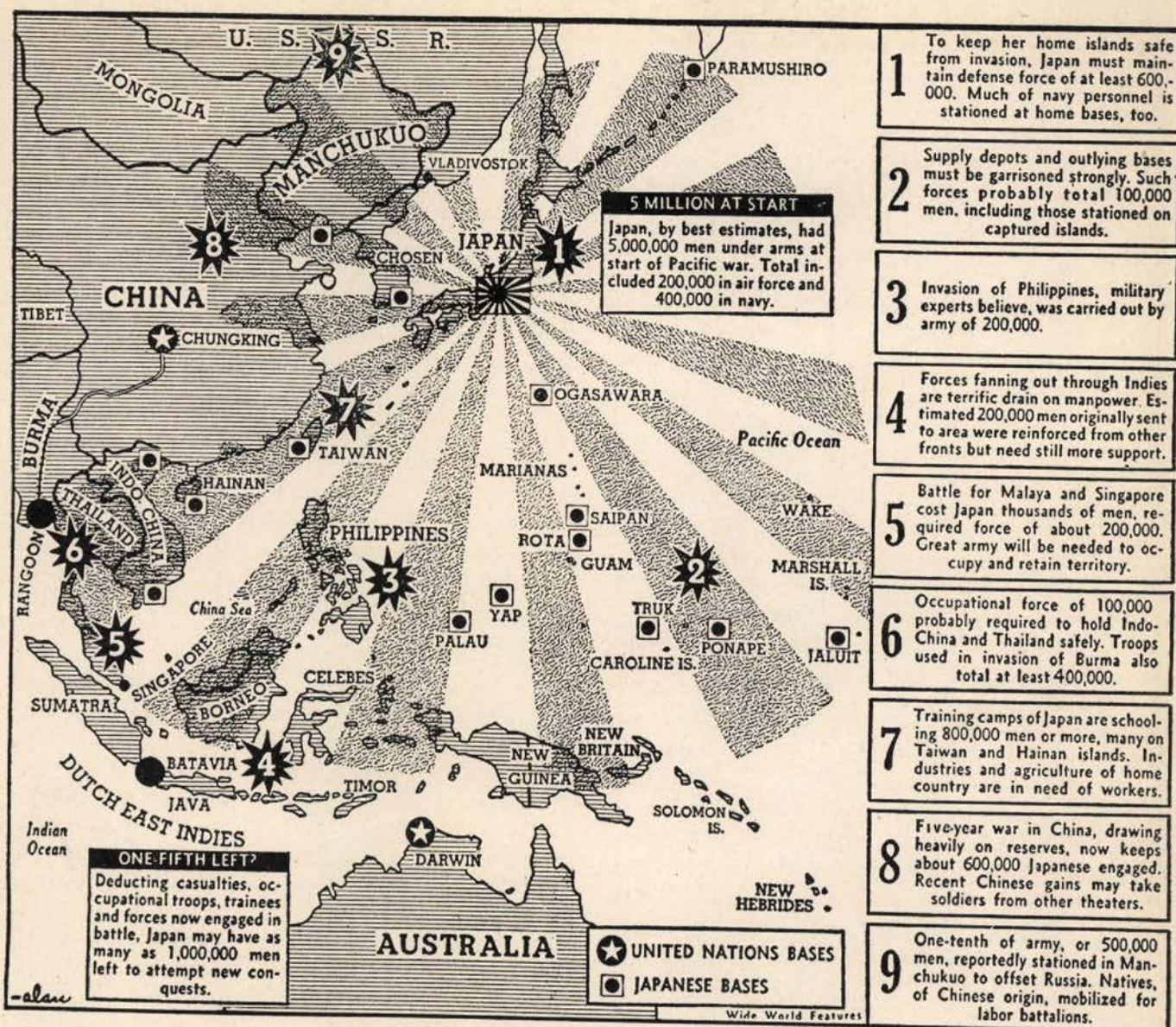
(*Japan Times Supplement*, June 30, 1933): "Japan's feeding line lies in South Asia. . . . There, vast territories and enormous products await the Japanese people. The great natural resources of the South Seas are to feed the Japanese people. . . . There is sufficient room in the South Seas to feed 500,000,000 people. . . ."

In the pursuit of these aims all methods were employed, such as the negotiations conducted by Mr.

<sup>1</sup>Harper and Brothers, New York. Reprinted, 1942.

<sup>2</sup>Baron Tanaka's memorandum of 1927 (usually referred to as *The Tanaka Memorial*); the declaration of the Japanese government of April 17, 1934, in which they virtually demanded the establishment of a Japanese protectorate over China; and the pamphlet published by the Press Bureau of the Japanese Ministry of War in October, 1934, in which Baron Tanaka's plans were formulated in greater detail.





Matsuoka in 1933 with the Dutch government for the creation of Japanese air bases in New Guinea and with Portugal for the purchase of Macao and the island of Timor, and the extension of Japanese oil and rubber concession rights in Borneo. In this light we must regard the dispatch of an Investigation Commission to Afghanistan, following which, Japanese instructors were invited to teach in Afghan military schools. Through the marriage of an Abyssinian prince to the daughter of a Japanese noble the Japanese were enabled to equip airdromes in Abyssinia and to receive a cotton concession there. In conformity with a similar plan young Arabs were invited from Egypt, Syria, Palestine and Hedjas to be educated in Japan at government expense; Japanese helped draft a program for the industrialization of Iraq; new commercial agencies and companies were established in Yemen and in Turkey, thus bringing Japanese strongholds and influence nearer the Suez and Baku, respectively.

Most profitable of all, of course, was the dumping of hundreds of millions of yens' worth of Japanese goods

(the product of slave labor) on these new colonial markets, because this brought commercial profit and created the grounds for strengthening Japanese military-political influence. This advance was so obvious that even German writers, who were not in the least inclined to expose Japan's military-political plans, remarked that "Japanese trade is a material and important state-political factor. Her aim can be clearly traced: Great Britain, principally, the Asiatic part of the British Empire, and the U. S. S. R.; Great Britain must be systematically squeezed out of the Asiatic colonies and dependencies, and strongholds must systematically be established in the countries bordering on the U. S. S. R."<sup>3</sup>

It will be useful here to recall that this is exactly how Baron Tanaka presented the problem in his memorandum. He wrote:

"In a certain sense, Manchuria and Mongolia are key positions by holding which we can seize the wealth of

<sup>3</sup>Captain Wagner, "Der Politische Charakter des Japanischen Handels," *Deutsche W'ebr*, September 20, 1934.



the whole of China. After this we shall subjugate India, the South Seas, Asia Minor and Central Asia, and finally Europe."

The German allies of Japanese imperialism were more familiar with the Japanese plans than any one else. For example, Dr. F. K. Practorius in an article in *Deutsche Wehr*, September 20, 1934, entitled "Die Wehrpolitische Lage der Mandschurei," wrote: "In history great aims are always achieved only by the appropriate means. In the present case it is not only a matter of materially possessing the Chinese Eastern Railway but of political domination in the Far East, in the whole of Asia. Japan has two roads to domination in Asia: She can either confine herself to the struggle for China, leaving other countries, particularly Russia, aside, or surround Manchuria right up to Turkey, and supplement this with domination in the Eastern seas. In the East this will be a line from Manchuria, through Mongolia, Turkestan, Afghanistan and Persia to Turkey, which will mean completely eliminating the influence of Russia and, ultimately, the complete elimination of the American and British strongholds in the East. Many things are urging Japan towards the latter far-reaching aim. Of course, the complete command of Manchuria is a condition precedent for this." (Note: Voluminous statistics document this statement.)<sup>4</sup>

In the pamphlet of the Japanese Ministry of War, we read in this connection:

"In China there is a group of so-called adherents of Europe and America, which dreams of taking advantage of the crisis of 1935-36 to seize Manchuria, and is banking on the fall of Japan's political positions in Eastern Asia. Such activities, in the final analysis, are mistaken from the point of view of the future of China herself and will lead to disorder in the Far East. Hence, in no circumstances must they be tolerated by the Empire. However, these activities will increase or diminish according to whether or not the naval forces of Japan will be crushed by the American naval forces. This is clearly seen from the experience of previous naval conferences, when on every occasion the Empire was subjected to the pressure of Great Britain and America an anti-Japanese movement sprang up in China; and on each occasion intervention became necessary.

"What does Japanese intervention in China proper mean? It means war in the Pacific; it means that the United States and Great Britain must inevitably be involved in the struggle. . . ."

#### JAPANO-GERMAN SYMPATHY

It is generally known that German fascism openly

expressed its sympathy towards the Japanese militarists. The "coördinated" *Wirtschaftsdienst* wrote:

"We Germans have no reason whatever to condemn Japan when she resorts to expansion to satisfy the needs of her state and people. 'Asia for the Asiatics' must no longer be an empty phrase; it must become the fulfillment of a definite demand. If we take the speech Adolf Hitler delivered in the Reichstag on May 17th as the guiding thread we will understand that from the point of view of German National-Socialism we can raise no objection to this policy of 'Prussia of the East.' Over there, in the Far East, a young, vigorous and virile nation is obeying the law of blood and race."

Matsuoka, in the name of Japanese imperialism, as readily blessed Hitler and the Third Reich's plans of conquest, in a (1934) book. He wrote:

"The German nation mourns the loss of Alsace and Lorraine. Even if Hitler had not come into power the Germans would never have abandoned the idea of restoring these districts to Germany. The Germans are indignant at France for its possession of the Saar and Poland, for its possession of Upper Silesia. By race and even by history these two regions belong to Germany. Hitler's policy is disturbing international peace; but Germany, groaning under the heel of the Versailles Treaty, has no other way out. Hitler is dreaming of creating a Third Empire, by which he means a Great Germany with new territorial frontiers."

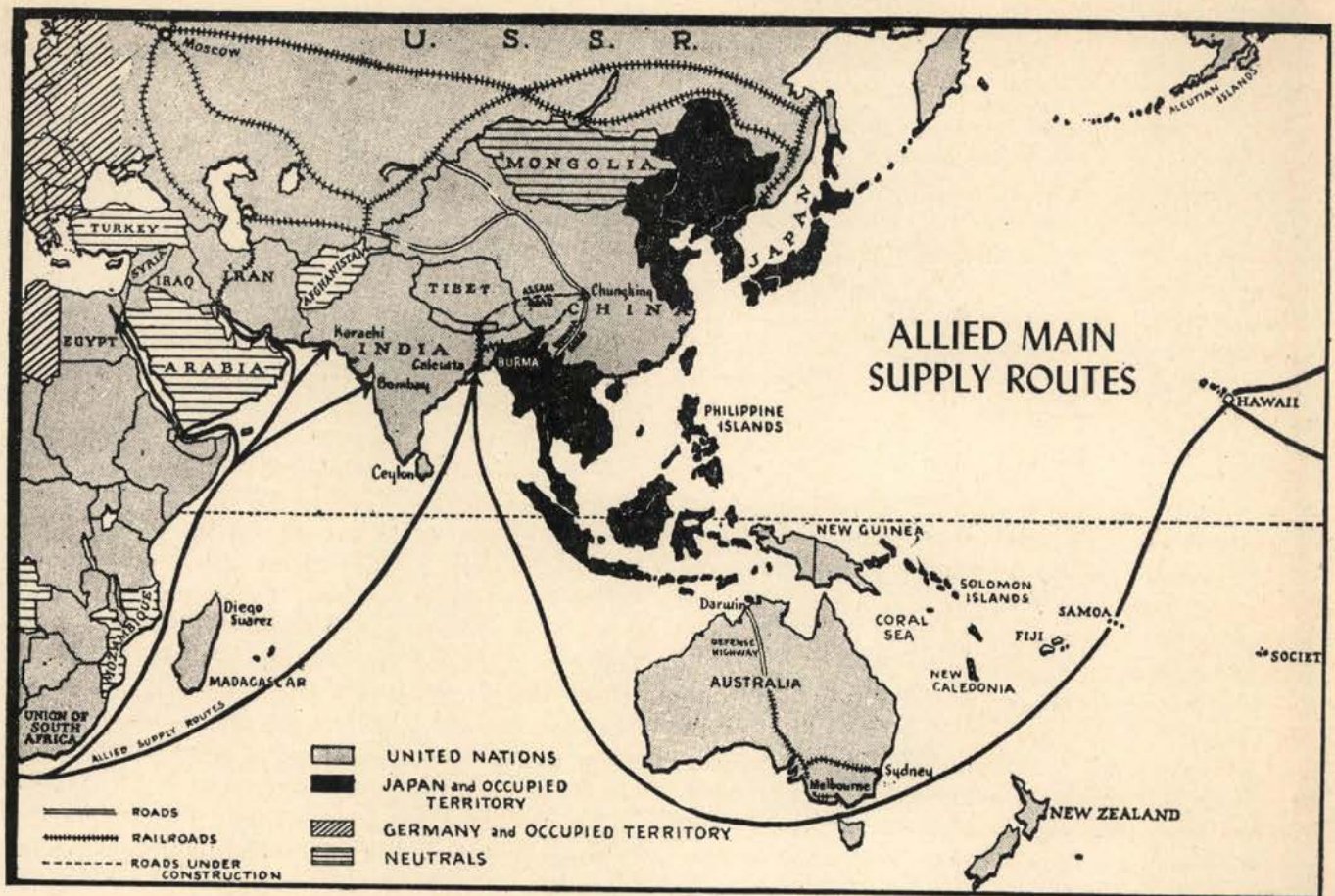
From the moment Germany, following Japan, withdrew from the League of Nations, both countries, as pioneers in a new war for the repartition of the world, began to plan practical coöperation. This is not confined to the diplomatic field, as witness the agreement whereby Manchuria was to supply beans to Germany in exchange for the manufactures of the German chemical-war industries and for armaments to be supplied to Japan. We can take it as proved that Germany helped Japan to reëquip her munitions industries and, in particular, in organizing the manufacture of aircraft.

Undoubtedly, German National-Socialists did not do this "for the sake of the beautiful eyes" of the Japanese militarists. Kurt Hesse, in his book, *The Hour of Destiny of the Old Powers*, indicated the hopes they placed upon the outbreak of a Japanese anti-Soviet war. He wrote:

"If Russia is tied up in the Far East it will immediately create a situation in which her Western Neighbors Rumania and Poland, would try to realize their national ideals, notwithstanding pacts of non-aggression like those which were recently concluded between Warsaw and Moscow. But then, Germany, too, will be confronted with the question of rectifying her own Eastern frontiers. After that, the whole of Europe will be set going. . . . If the world today admits the justice of the Japanese demands (and we must say at once that there is no other alternative), the conclusion must be drawn that the place in life that we need, must also be recognized."

<sup>4</sup>In 1935 numerous books dealing with the inevitability of an armed struggle for the command of the Pacific appeared in Japan. The authors of *When Japan Goes to War* cite as examples: Masudzaki Koko, *The Forthcoming Naval Conference and the Navies of Japan*, *Great Britain and the United States*, with a foreword by Okada and Uchida; Ishimaru, *The Climax of the Antagonisms in the Pacific*; Hirata Sin-saku, *In the Name of 1936*; Vice-Admiral Sosa, *Japan and the Naval Conference of 1935*; Ishimaru, *The Inevitability of an Anglo-Japanese War*.





Other German National-Socialist writers declared still more frankly that their object in banking on Japanese aggression was to weaken the European Powers and thus to clear the road for German aggression. This was expressed with inimitable cynicism by von Leers in *Die Tat* as follows:

"We do not idealize in the least the Japanese. Nor do the Japanese idealize us. Nevertheless, there are very important points of contact between the two countries and the two nations, certain real common interests and a spiritual kinship. In politics we cannot expect all our friends to acquire blue eyes and to become blondes to please us. Politics are a matter of real interests of nations and have little in common with race kinship. From the standpoint of our position we are interested in the prosperity of every non-European Power. Every such Power will bind the forces of our neighbors and thus will release the German forces. The ascendancy of Japan, which is the strongest non-European Power, means strengthening the positions of Germany, particularly since the Franco-Soviet rapprochement." (September, 1934.)

#### ANTI-SOVIET CONSIDERATIONS

As to Russia, the nature of the plans entertained by the aggressive wing of Japanese imperialism can be judged by a statement in late 1935 in the semi-official Japanese newspaper, *The Harbin Shimbun*, mouthpiece of the General Staff of the Kwantung Army:

"Policy towards Russia must be built up on the understanding of the slogan: Asia for the Asiatics. The value of the Russians for Asia is beneath consideration, and we emphatically deny that the Red Russians have any economic and political culture, or that they have made any contribution to such culture. If the three great elements of the world are Europe, Asia and America, then the thing called Russia is absolutely superfluous. We declare that our policy is to eliminate Red Russia from Asia and to clear Asiatic territory of the adventures of Red Russia. There are certain types of people who talk about the independence of Siberia; others in their sleep see visions of the independence of the three regions, with their sparse population and inconvenient geographical position, can create an independent state and exercise independence. In the epoch when Japan and Asia were hemmed in, when the light came from the West, Asia perhaps needed the Russians; but now, when asphalt roads have replaced the old deep-rutted roads, the Russians are superfluous baggage. A people which lacks the ability and forces to create culture and civilization has no future except the road of doom and collapse. The land East of the Urals and the Altai is Asia. It is the place for the expansion of Japanese culture. In that Northeastern corner of Asia the influence of Japan must become supreme, and Japan must strive at least for the lands East of the Baikal. This is the slogan that is before the eyes of the Japanese. Our policy towards Russia is expressed in that slogan. . . ."



The real reasons, however, for the anti-Soviet activities of the ruling circles in Japan were formulated in a resolution previously adopted at a meeting of "the representatives of business circles" convened in the autumn of 1933 by Mr. Hirota, Japanese Minister of Foreign Affairs, to discuss the problem of Japano-Soviet relations. The resolution read in part:

"The main policy towards the U.S.S.R. was set forth in the Japano-Soviet Convention concluded in Peiping. In view of the existence of this convention a pact of non-aggression is superfluous; but if the U.S.S.R. desires to conclude such a pact owing to the changed situation in the Far East and the creation of Manchukuo, Japan may agree to conclude one if the U.S.S.R. agrees to the following conditions: (1) The absolute cessation of the revolutionary movement in the Far East, particularly in Manchuria and Japan. (2) The withdrawal from the Far East, and particularly from the frontiers of Manchuria, of all military contingents. (3) The repeal of all laws imposing restrictions on Japanese enterprises in the Soviet Far East; in particular, to carry out fair measures at the fishery auctions, to abolish import duties on all articles required for the fishing industry, and to modify the regulations governing the hours of labor; in regard to oil concessions, to conclude an agreement concerning the sale of oil in Japan, to prolong the period of oil prospecting, to lengthen the working day, and to modify the inspection regulations; to modify the regulations and control of the production of coal. (4) To permit the opening of new Japanese enterprises in the Far East (Soviet) and, in particular, to grant Japan lumber and mining concessions. (5) To develop Japano-Soviet trade and to abolish its one-sidedness so that as much, or more, is purchased from Japan as Japan purchases. (6) The immediate surrender of the Chinese Eastern Railway."

This resolution is supposed to enumerate the terms of a pact of non-aggression; in reality it is a masked enunciation of a program of war containing demands which reflect the interests of different strata in the camp of the ruling classes of Japan. But that only enhances its significance!

Speaking of the Russian fortified areas created on the Far Eastern frontiers, General Koiso, Chief of the General Staff of the Kwantung Army, said:

#### RESTRAINING INFLUENCE

"We did not suspect that the Russians were capable of performing such perfect and rapid work. We are surprised at their ability to build, and astonished at the sums they have spent on these fortifications."

From this necessarily followed attempts to compare Soviet achievements in strengthening its defenses with the military strength achieved by Japan. It must be said that in a number of cases the achievements in regard to reëquipping and reorganizing the Japanese army have been understated. Such was the opinion expressed by Nagaoki, who is regarded as an expert on Asia. He said:

"The military forces of the U.S.S.R. greatly exceed the forces of the Japanese army at the present time. It is particularly important to bear in mind that modern warfare is scientific warfare, and, however well troops may be trained ideologically, they cannot fight against the forces of physics, chemistry and mathematics. To count on victory in a hand-to-hand struggle against excellent airplanes, tanks, machine guns, etc. would be too much to expect of soldiers, however brave they may be.

"Moreover, not only the question of armaments is important. Modern war is not only a struggle with the aid of armaments; it is also rivalry between the economic power of countries. As the Japanese dislike Communism, they dislike the successes of Communism in the U.S.S.R. Hence the tendency to deny the fact that Communism in the U.S.S.R. has had a certain amount of effect. This is not the time to conceal the actual situation in the U.S.S.R. out of fear of Communism." (*Osaka Mainichi*, March 15, 1934.)

Although this may be an extreme opinion, the Red Army's superiority in aviation, mechanization, infantry, artillery and cavalry was very widely admitted in Japan. This opinion was expressed by the members of the Japanese Upper House early in 1934 in an interview with the then Minister of War, Lieutenant General Araki. They said: "It is the duty of the soldier to die on the battlefield, but we do not wish to die in our homes from air bombs dropped by the Soviet airfleet."

As an example of "glancing back at the U.S.A.," we will quote the opinion of a Japanese naval officer who said:

"We will try once again to depict the international situation that will precede the great world war.

"If we can assume that Great Britain is doing all she can to drag Japan into a war against America we can be quite certain that America, on her part, in order to insure victory over Japan, is burning with the contemptible desire to turn the latter against the Soviet Union.

"For example, we, of course, know the source of the rumors that have been persistently spread everywhere recently about a Japano-Soviet war. But even in our military circles we often talk about the impending great Japano-Soviet war. What will happen to Japan if she is compelled to wage war against the U.S.A. and U.S.S.R.? Will she not be in the position of Germany during the great World War? Surrounded by the enemy at the front and in the rear, and not nearly so well prepared as Germany was before the World War, will Japan be able to fight?

"Probably the Soviet Union would like to pick a quarrel; in that case we shall have to operate simultaneously in the East and West.

"There is certain order in military operations. One's forces must be concentrated and hurled against the principal enemy, against the main target. Undoubtedly that main target is the U.S.A.

"Our plenipotentiary, Matsuoka, on his way to Geneva, stopped in Moscow and proposed that the Soviet



government conclude a pact of non-aggression with Japan on the condition that the U.S.S.R. recognizes Manchukuo. Matsuoka says, 'Of course there are a number of bad sides to the position taken by the Soviet Union, but those who are opposed to concluding a pact with the U.S.S.R. evidently do not realize the seriousness of the danger of 1935-36.'

"However, we are not in the least afraid of the Soviet Union. On the contrary, we know from reliable sources that it is afraid of Japan.

"Meanwhile, America, weighing up the situation, has offered her coöperation to Soviet Russia, which the latter has accepted.

"In this connection it may be said without exaggeration that we must not belittle Russia. She may play the rôle of the wolf stealing in by the back door. It is necessary also to strengthen our friendship with the U.S.S.R., otherwise a Japano-Soviet war will break out.

"If, however, Japan fights the U.S.S.R., the U.S.A. inevitably will intervene. It cannot be said with certainty whether, in the final analysis, a second world war will break out, but we can be quite sure that in this war Japan will undergo very severe trials."

#### JAPANESE MILITARISTS' VIEWS

There is ample evidence to substantiate the belief that the Japanese plan in 1933-36 definitely contemplated war with Russia prior to becoming involved with America:

"During the past few years (early thirties) Japanese military and naval circles have attached increasing importance to the Northern direction as the most dangerous of all possible directions of operations in the future war in the Pacific. It is believed that with the present relations of naval forces and naval bases of the U.S.A., and of Japan, the Japanese navy would enjoy a number of advantages in the Central and South Pacific. These advantages arise from the fact that the principal bases of the United States navy are extremely remote from Japan and the Asiatic mainland. The (ship-route) distance from Panama to Pearl Harbor, (Honolulu) and from the latter to the coast of Japan is 10,800 miles. Hence, a fleet operating in this area would need a cruising range of 25,000 miles merely for a return voyage, allowing a few thousand miles in reserve for maneuvering purposes. Even with bases in Hawaii, the cruising range would have to be about 12,500 miles. . . . America cannot use Guam and the Philippine bases, which are nearest to Japan because, being insufficiently fortified, they can be captured by the Japanese fleet before considerable American naval forces can be concentrated there. Moreover, the approach to these bases from the American coast is threatened in front by the Bonin and Marianas Islands, and on the flank by the Caroline and Marshall Islands, on which, in violation of international agreements, Japan constructed submarine and air bases and anchorage for its surface fleet. . . .

"The position in regard to the Northern route is dif-

ferent. First, the distance from the coast of America to the coast of Japan is considerably shorter—not more than 3,000 miles—and shorter yet from the last group of the Aleutian Islands. A fleet operating here will need a cruising range of 8,000 miles only. Moreover, this route is not intersected by Japanese mid-ocean bases. . . . Japanese naval experts therefore believe that the security of the Northern route is now the most important problem in the plan for an anti-American war in the Pacific. . . ."

During the period of Japanese intervention in the Soviet Far East, General Saito wrote: (*Japan and America*).

" . . . Look at the map and study the position of Petropavlovsk Bay, which lies nearer to the Southern end of the Eastern part of the Kamchatka peninsula. If a powerful American fleet establishes itself there, the command of the North Pacific will pass to America. Even if our Empire possesses three squadrons of eight battleships and eight large cruisers, our navy will be unable to do anything there. . . .

"Only one conclusion can be drawn from this, i.e., the U.S.S.R. must be dislodged from the Pacific Coast and the latter seized and fortified before the outbreak of the Japano-American war. Hence, war against the U.S.S.R. must precede war against the U.S.A.

"Thus, before entering into a decisive conflict with the U.S.A. Japan must defeat the Soviet Union and in that way so fortify her position as to be able to come out fully armed with a secure economic base and advantageous strategic positions in the impending war with the U.S.A. for the command of the Pacific."

This argument is accompanied by demagogic "proof" that Japan, generally speaking, could agree, if only temporarily, with the United States on disputed questions, whereas it was impossible to come to an agreement with the U.S.S.R.

The Fascist writer, Furuya Eichi, stated:

"The U.S.S.R. has reached the very gates of Japan. It is the U.S.S.R. that manipulates the Communist Party of Japan like a puppet and is destroying her (Japan's) pillars of state. This rôle cannot in the least be compared with America's. America is a powerful country; the U.S.S.R. is not such yet. But when the latter has settled its internal position and becomes powerful it will cause Japan incomparably more trouble than America. The conduct of America is more or less that of a gentleman; the U.S.S.R., however, is Japan's mortal enemy.

"America wants Japan to be stronger than the U.S. S.R. in the Far East. It is not in the interest of America to crush Japan entirely because she knows that there is no other power that could combat Communism, which has spread over the continent (of Asia). Is it not clear, therefore, why Russia is Japan's principal enemy? . . . Nevertheless, the problem of maintaining its positions in China is not only a problem that confronts Japanese imperialism in its struggle against the U.S.A.;



# STRONGHOLD OF THE ENEMY

THE Allies expect to strike hard some day at the area shown on this map—the true heart of Japan. No larger than Minnesota, it holds half her people and nearly all her heavy industry. Note the concentration of big cities, many of flimsy construction, and of big manufacturing plants, geared for war. These are keystones in the enemy's stronghold. When smashed, Japan dies.

⊕ NAVY YARDS (MAJOR BASES)

⊕ SECONDARY NAVAL BASES

⊕ MAJOR FORTIFICATIONS

✕ MAJOR NAVAL AIR STATIONS



STEEL CENTERS



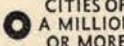
HEAVY INDUSTRY



MAIN INDUSTRIAL AREAS



PROBABLE MINE FIELDS



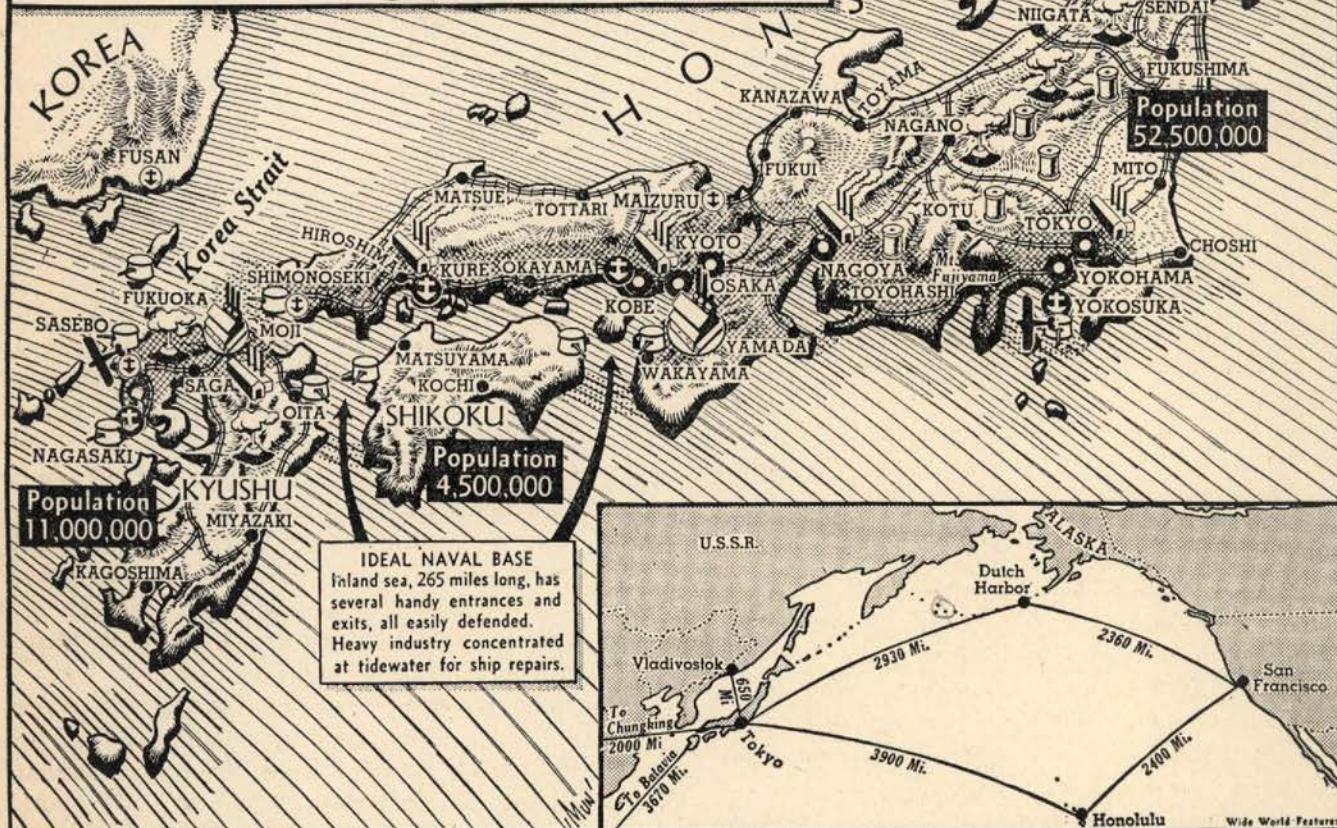
CITIES OF A MILLION OR MORE



ACTIVE VOLCANOES

FISHERIES

SILK CULTURE



it is the premise of success in the struggle for the command of the whole of the Pacific, because both for a war against the U.S.S.R. and for a war against the U.S.A. Japan must utilize a part and even a great part of China.”<sup>5</sup>

From these general considerations the leaders of the militarists proceed to the concrete “dangers” threatening Japan from the side of the U.S.S.R., and in this connection they enumerate the well known objects of seizing the Soviet Far East.

Germany also adds stimulus to this thesis:

“... From this the conclusion is drawn that frustrating the Five-Year Plan and provoking anti-Soviet war must be complementary phases of Japan’s drive against the U.S.S.R. Every year’s delay in this drive enables the Soviet Union to grow stronger and conse-

quently, in the final analysis, will make the realization of Japanese plans impossible. . . . Japan must wait no longer, because the measures adopted by the U.S. S.R. in the Far East may strengthen its position to such an extent as to nullify all chances of Japanese success.” (*Militär Wochenblatt*, No. 34, 1934.)

The Japanese militarists leaders, however, knew perfectly well that even their capture of a section of Soviet territory would not constitute the decisive defeat of the enemy. As S. Hirata, (*Bungei Sindsyu*, February, 1933) correctly wrote:

“If Chita and Irkutsk were vital centers of the Soviet Union the situation would be different; but Far Eastern Siberia is a second-rate raw material territory of the Soviet Union, and a battle on its frontiers would not represent a crushing blow. Even if it suffered several defeats in succession, the Red Army would not be disabled. . . .”

<sup>5</sup>“Who Is Japan’s Real Enemy?” in *Nihon Oyobi Nihonjin*, May, 1933.



### Editorial Comment

The authors of *When Japan Goes to War* then, in five succeeding chapters, proceed carefully and exhaustively to analyze the natural resources of Japan and her possessions, the nation's productive and manufacturing capacity, as of 1936. They conclude that after the first year of a *major* war the strain proportionately will become unendurable for Japan. Since 1936, we are well aware of the fact that Japan has supported five years of undeclared war with unconquerable China. And while Japan recently has acquired considerable territory in the South Pacific area and now is a *have* nation, her material losses probably have equaled if not exceeded her immediately usable gains. We should not underestimate, however, Japan's organizing capacity.

The answer to the present predominant question—Why did Japan change her 1936 plan to attack Russia and, instead, drive initially to the South and East leaving her "back door" open to Russia and her "skylight" open to the United States—has not been made public; but Germany's long existing influence over Japanese strategic operations is only too evident.

Japan unquestionably made her momentous decision to attack the United States when Germany was threatening Moscow and believed that Hitler could contain Russia on the European Front, making it unprofitable for Russia to open an Asiatic Front against Japan. In this connection it must be recalled that the momentum for Japan's initial attack of December 7th was well under way prior to the Battle of Roskov (Russia's southern flank) on November 28th, which became a turning point in the German-Russian conflict. To strike Russia prior to a Japano-American war was undoubtedly Japan's original intention. But due to her "Unholy Alliance" with the Nazis and her premature assumption, in the fall of 1941—that Moscow would fall to Germany, and that much of the strength of the Soviet would be curtailed—her change of plan was precipitated. It seems likewise indisputable that Japan was forced into the war *ahead of her own original schedule* and in a direction that she had planned for her *second* phase of conquest.

To be sure, Hitler's publicized rendezvous with

Japan in India, if successful, might have accomplished both of Japan's objectives: by furthering Japan's effort in China and in crippling her long despised enemy, Russia, thus enabling Japan, at her leisure, to realize her ancient ambitions in Soviet Asia.

Japan, for her part, has dominated much of the South Seas, has cut the Burma supply line to China, and now threatens India; while Germany, behind schedule, still strives to interrupt the United Nation's supply lines to Russia and Britain, even at the expense of exposing her flank to the Allies and of creating a dreaded Western Front.

On the other hand, neither Germany nor Japan is willing to wholly trust the other. Germany now appears more concerned about her own selfish hide, while Hitler's obviously waning affection for his Axis signatories and Quislings is significantly important.

In view of the present war situation, it is quite possible that Hitler, having double-crossed Italy, France, and other countries under his "benevolent protectorate," has also played Japan for a "sucker" in his effort to divert the non-Axis effort from Germany to the East. Japan, on the contrary, in a deliberate desperate effort to justify her military expenditures and unify her internal factions probably believed that she must strike "now or never" and was willing to *gamble* her fate on a possible quick grab of the South Seas territory, Burma and India before America, China, Russia, and Britain could assemble their means to intercede. From the point of view of *grand strategy* it appears, at the date of this writing, that Japan has more accurately estimated the situation than has Germany—with the possible exception that she definitely has underestimated the non-Axis long-term war potentiality.

Japan, in spite of her initial successes, already is over-extended and her war machine certainly has not survived the ordeal without considerable wear and tear! China, despite the drain of her long war, is still a power with which Japan must reckon. What if Russia decides to anticipate Japan's ultimate intentions and beat her to the punch? *Russia now finds herself in a key position!*

In any event, *time* will work against Japan. Finally, when the full impact of the non-Axis war resources can reach and strike her, the *Rising Sun* inevitably will set.



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# Soviet Cavalry Operations

*By Colonel P. Karpachev\**

THE use of powerful machinery and mechanized weapons in battle is characteristic of modern warfare. In modern war, engines have influenced tactics and modified the order of battle. However, it has not by any means diminished the importance of the cavalry.

The cavalry if plentifully supplied with machinery and mechanized weapons is still powerful, and is not only capable of defending itself against tanks and armored cars but can destroy them wholesale. This has been convincingly demonstrated by the Soviet Cavalry in these nine months of war.

Both in the early defensive state of the war and during the vigorous counter-offensive, the action of Soviet cavalry discredited the theory of certain shortsighted military experts that the days of the cavalry as a fighting arm were over.

In the first stages of the war when the enemy's panzer troops were pressing eastward into the heart of our

country, the cavalry formations acting in conjunction with other arms heroically fought to stem the fascist assault. They stubbornly defended every inch of ground and inflicted heavy losses on the enemy.

The main duties of the Red Cavalry were as follows: They struck at the flanks of advanced enemy bodies, operated on the flanks of their own armies to cover their retreat and helped defend important strategical points and lines and operated in the enemy's rear.

The Cavalry's defensive operations were active and resolute. Here is an example of the Soviet Second Cavalry Corps that was assigned to occupy a defensive position on the Reut River, and by vigorous action was to cover the retreat eastward of one of the Soviet armies. A small body was detailed to occupy a favorable position along the Reut River while the Corps' main forces were concentrated on the flanks in order to strike at the advancing Rumanian First Royal and the Third Infantry Divisions and the 50th German Panzer Division. The

\*Soviet Cavalry.





enemy, engaged in battle with the cavalry, was suddenly attacked by the striking forces. All the enumerated groups were routed and the Soviet Army was able to retire in good order to the south bank of the Reut River and there organize its defenses.

A highly instructive instance of the action of Soviet cavalry in liquidating the enemy thrusts is furnished by the operations of the Second Cavalry Corps in the vicinity of Balta. Mobile enemy groups were approaching Pervomaisk. The Second Cavalry Corps was ordered to reach the Balta area by a forced march and to strike at the flank of the enemy's wedge. In two days the Corps covered a distance of one hundred kilometers through roadless country fighting all the way and then by a sudden blow shattered the enemy's 293rd and 297th Infantry Divisions and the 19th Motorized Division recapturing the town of Balta and liquidating the thrust at Pervomaisk.

No less successful operation of this type was the flank attack moving from the District of Krichev-Chausa eastward with the aim of seizing Roslavl by a lightning blow and turning the flanks of the Soviet Army operating north of Roslavl. The Soviet Cavalry was ordered to strike at the flanks of the enemy's Krichev group and to prevent him from seizing Roslavl.

On August 2, 1941 Soviet Cavalry made a sudden assault and an unexpected artillery offensive: 30 enemy tanks, 50 truckloads of infantry and two trenchmortar batteries were destroyed near Shumovka-Ponyatovka.

This war has shown that the cavalry can not only stem the advance of the enemy's panzer troops but can also annihilate whole tank formations. An instance of this type of action was the Shtepovka operation successfully effected by the first Guard Cavalry Corps.

The enemy's panzer troops were speeding eastward toward Suman threatening to surround one of our armies. The Soviet First Cavalry Corps augmented by tanks was ordered to stem the enemy's advance. By a series of vigorous movements the cavalry surrounded the German ram near Shtepovka and routed the 9th Tank and the 25th Motorized divisions. In this battle our troops also captured considerable other military equipment, 300 trucks, 8 passenger cars, 180 motorcycles not counting those destroyed.

The duty of Soviet cavalry, when acting in the enemy's rear, is to destroy his communications, transports, stores, headquarters, manpower and armaments.

Highly successful raids of this kind were made by units of the Second Guard Cavalry Corps. In one zone of operation from August 23rd to September 2nd, 1941, it routed the German 430th Infantry Regiment, wrecked headquarters, two other regiments and the topographical department of the 6th German army, killed 2,500 German soldiers and 19 officers, destroyed

200 trucks, four armored cars, two tanks, 4 guns, six trenchmortars and 30 heavy machine guns and captured 65 machine guns, 1,500 rifles and automatics and a large number of horses, machines and other equipment.

These examples show that when properly and skillfully utilized, cavalry units and formations are capable of accomplishing any task set them.

Beginning with December, 1941 the position of the Soviet-German front was markedly changed.

Having worn down the enemy in previous battles the Red troops passed to a counter-offensive. On a number of sectors they drove the enemy out of his fortified positions and without allowing him to entrench himself began to drive him westward.

In offensive actions the Red Cavalry is used as one main force in routing the enemy's groups. It is chiefly used for flank attacks, for widening breaches in the enemy's defenses by turning his flanks and by pursuing him in retreat.

Our offensive has furnished many examples of bold, resolute and daring actions. On the sixth of December our First Guard Cavalry Corps by a flank blow near Venyev and Stalinogorsk routed the 17th Tank, 29th Motorized and 167th Divisions of Guderian's group. This enabled our troops to advance rapidly, while on the 7th of December the Soviet Army on whose flanks the Guard Corps was operating inflicted severe defeat on Guderian's troops by a vigorous counter blow. The enemy was driven out of his main defense centers and abandoning armaments and leaving the field strewn with dead and wounded, retreated westward.

Highly significant was the action of our Second Guard Cavalry Corps near Ruza, December, 1941. Unable to withstand the assault of our troops near Ruza, the enemy began to retreat west and southwest. An order to prevent the enemy from breaking contact with the Second Guard Cavalry Corps was launched against the retreat of his lines. Routing the enemy's rearguard, the cavalry cut the German lines' retreat and by a dashing attack annihilated his 78th Infantry Division and captured 40 guns, 200 trucks, numerous wagons and wireless sets and other equipment.

These instances demonstrate the important part played by the cavalry in the Soviet peoples' patriotic war against German fascism and the wonderful effectiveness of its action when properly directed and closely combined with the action of the other arms.

Cossacks of the Don, Kuban and Terek, and the collective farmers of the Northern Caucasus have risen to reinforce the Soviet Cavalry whose fame is spreading far and wide. These popular levies are burning with eagerness to enter the battle and to demand an account from the fascists for all the atrocities, robberies and violence they have perpetrated on the Soviet people.



*"Organization is the servant of tactics and not its master."*



# At Soviet General Dovator's CP\*

By Eugenie Krueger\*\*

MAJOR-GENERAL DOVATOR is one of the most outstanding Soviet cavalry commanders now fighting with his Cossacks on the Moscow front. For daring and courage displayed in fighting, his unit—the 3rd Cavalry Corps—was a short time ago renamed the 2nd Guards Cavalry Corps.

Finding Major-General Dovator's headquarters is no easy job. One can imagine the difficulties of the Germans in the days when his Cossacks wrought havoc in their rear, considering that on this side of the front we spent a full day in trying to locate the headquarters of the Cossack Guards. Finally, we were given the most accurate and precise direction: "Look for Dovator where the fighting is hottest."

This was not so simple either, for fighting today is quite hot on all fronts around Moscow. Nevertheless, we listened to the advice and actually found the Guardsmen at a place where the most heated battle was in progress. Clouds of smoke were rising from beyond the forest and the air was rent by the booming of artillery and A.A. guns, the roar of exploding bombs, the clatter of caterpillars.

\* \* \*

Precisely in such conditions Dovator's cavalymen feel at home. They are always sure to appear where they are least expected—particularly by the enemy. Such was the case recently when the Germans broke through near a very important point, and for 24 hours mounted Guardsmen raced from one flank to another, through forest and across rivers covered with a thin crust of ice, without pausing to rest, to reach the place where danger threatened, where help was needed at once, for in this situation every minute was precious.

The Guardsmen went into action immediately on arrival and checked the enemy. They still recall their excursion into the German rear, when 3,000 horsemen, with Major-General Dovator at their head, broke through the front line and for many days, behind the back of the German generals, smashed headquarters, dispersed transports, and broke communications, with the result that the German generals were thrown into a panic. Only in a state of panic could an Order be issued announcing to the German troops that, contrary to rumours, not 100,000 but not more than 18,000 Cossacks had penetrated their rear.

Actually, there were only 3,000. They twice scattered the headquarters of the 6th German Army. The topography department of the headquarters was completely wiped out. Once, from an ambush, they blew up 56 motor vehicles. Under the very nose of the Germans, far in their rear, the Cossacks mined the highway. The first lorry of a column was blown sky-high and blocked

the way for the rest. The Cossacks opened machine-gun fire. The main thoroughfare in the German rear presented an ugly sight. And the Cossacks then turned off the main thoroughfare on to quieter roads.

These were the days when they moved across enemy territory, and as they raced through the villages, squadron after squadron of them, singing Cossack songs, the people ran out to welcome them. The German Command was compelled to form a special detachment to fight against Dovator's group. Soon the German major who headed that detachment, together with his staff, were seized by the Cossacks. Completing their raid, Dovator's Cossacks fought their way back across the front line and rejoined the main Soviet troops. Many people still remember this raid—particularly the enemy.

\* \* \*

Today Dovator's Cossacks are fighting for Moscow. We met them in one of the most difficult sectors of the front. The day was drawing to a close when the Major-General returned from the main line to his headquarters. Without pausing to remove his coat he walked over to the table and unfolding a map proceeded to explain the situation and the plan of subsequent operations. His speech was quick, laconic. Giving little time to minor details he tried to make everybody understand his main idea. His enthusiasm is contagious, his speech picturesque and expressive. This is how he speaks of his Guardsmen:

"Our weapons? Rifle! Sabre! Hand-grenade! Fire-bottles! There is one of my commanders. Believe it or not, he once got on a horse and attacked a tank. Queer chap. But what can you do with him if he actually did destroy the tank. And he is by no means young. I scolded him, but inwardly I thought: This old boy is made of real stuff, he is a real Guardsman!"

The door opened to admit Issa Pliyev, Guard division commander.

"Pliyev had a characteristic battle here," Dovator began. "Our favorite sport is striking blows at the flanks. In a complex situation we decided to cut the German communications. With small forces at his disposal Pliyev successfully waged a two-day battle and himself led the cavalryman into attack. Never was it necessary for me to go in person to help improve the position in Pliyev's division or in the division under Brigade Commander Melnik."

The Major-General again bent over the map and gave the final orders. After a curt "Everything will be done as ordered" and a salute the commander left.

Dovator, his eyes on the retreating figure, smiled as only a friend can smile.

"You know what those words mean? Only one thing—he will dislodge the Germans!"

\*From *The British Cavalry Journal*.

\*\*War Correspondent.



# THE COSSACK

*By Lieutenant Robert B. Rigg, 106th Cavalry*

TODAY, as in the past, the Cossacks are adding important chapters to the wartime history of horse cavalry. In World War I the Cossacks were the first Russian soldiers to alert themselves and start for the Russo-German border which they crossed within twenty-four hours after war had been declared on Imperial Russia.

In his memoirs, the French General Foch stated that, "... the Cossacks saved Paris." His reference was to the great number of German soldiers who were required to stem the Cossack's drive to Berlin at a time when those soldiers might have swung the balance in Germany's favor on the *Western Front*.

World War II finds new and old Cossacks on the offensive against a powerful mechanized foe. Full light has yet to be shed on their current actions, but their success alone is enough to prove the great value of the soldier on horseback.

## TRAINING

No accident is this present day success of the Cossack. Their Spartan training methods are producing results in the field of battle.

The *Kazak*<sup>1</sup> is an exceptionally well trained horseman and soldier. He has been taught to face any situation, and never to be surprised by changes. All are trained to a philosophy which produces soldiers who, when faced with an obstacle, have not the least hesitation in taking the offensive.

From the onset of his military career the Cossack is taught that he, by virtue of the rigid training he undergoes, is equal to several times his number in enemy soldiers. He is told why this is so, and it generally amounts to just what Cossack officers do stress—hard training under field conditions. Cossacks spend the larger portion of their training time in the field. Not only is he taught that he can oppose superior numbers of enemy, but in their training he is told to expect opposition of superior strength. Consequently his stability is never jarred when he finds the situation this way. It is, however, the application of a RIGOROUS TRAINING PROCEDURE, and sound DISCIPLINE in the course of it that makes the *Kazak* feel superior.

The Cossack as an individual is a hardy, fun loving, prank playing soldier. He is rough in manner but decently educated. He never forgets that he is above all a soldier first. He is inclined to seek fun in the course of his training, and for that reason Cossack officers make all aspects of training dynamic so that no interest will be lost. A typical example of this is to be found in the

*djigitovka* which does much to maintain spirit in the Cossacks military routine. This will be discussed further on.

Officers make every effort to see that their men develop individual prowess. Pride and care in the development of the Cossack's horse is one subject which does not need to be stressed by officers for it exists with every man. Teamwork in a Cossack unit starts with the combination of man and animal. No greater team can be found than the Cossack and his horse.



"... the battlefield is not the place to discover or develop daring."

<sup>1</sup>The Russian word for Cossack.





"... it develops the body in QUICK ACTION, and the mind in QUICK THINKING."

A soldier's qualification for a place in the ranks of any organization is not reckoned from the length of his training or experience, but from his proven excellence in horsemanship, arms, and general soldiering. Commanders have no hesitancy in leaving a vacancy in their ranks if they do not feel the soldier is fully qualified. "It is better for an officer to have two who are good, than twenty who might be a burden," is a favorite saying of theirs. The Cossacks also like to say that the most important part of the saddle is the girth because one depends most on that part. They view their organization with this same simple logic which places importance upon individual soldier, his training, and his ability.

#### HORSEMANSHIP

In horsemanship the Cossack chooses to start where many leave off. To the *Kazak* the horse is a weapon, which should be just as handily used as a rifle or machine gun. He therefore is to be seen riding or using his mount in a variety of forms. Horsemanship as the Cossack regards it, is only of value if it has practical

application to his military purpose. His riding form varies with what he is doing, and at times the foreigner might think that he is inclined to be careless as regards his horsemanship. However, this is not the case if the true facts are examined. No cavalymen can ride in close order drill with more dress and precision than the Cossacks, yet in the field when riding fast and long the Cossack does not maintain uniformity in his position in the saddle as some other cavalymen do. His riding varies in form with what is required of him, speed, endurance, cover, etc.

#### DJIGITOVKA

The term *djigitovka* is used to describe the Cossack's well known exhibition of horsemanship and daring. Stunts performed in a *djigitovka* are the Cossack's most difficult and daring. They were originated years back, and the American cowboy borrowed a few though not the more spectacular ones. Too few realize that in this stunt training the Cossack is achieving more than just a better balance in the saddle. The *djigitovka* has an



important place in the military training of the soldier . . . it develops the body in QUICK ACTION and the mind in QUICK THINKING, and schools the Cossack in accepting danger as a normal part of his daily routine. The ability to THINK and DO in a crisis requires a poise and coördination which is not easily developed. Participation in the *djigitovka* is on a competitive basis, and all seek to take part in it. As it is regularly scheduled preparation for it becomes a part of training, and it is in this that the Cossack develops the skill and precision which not only serve to make him a daring horseman, but a soldier who can meet any situation.

According to the Cossacks the battlefield is not the place to either discover or develop daring. It must begin long before it is necessary to put it to real use, and needs to be developed in the soldier the same as any other quality. The few injuries which are sustained in stunt riding serve to save injuries and casualties later. A soldier who spills in the *djigitovka* as a result of improper adjustment of his equipment is much better insured against the same thing happening later on when the result would be more serious in combat. This is the Cossack approach to training in horsemanship, and it reveals one very important fact. The Cossack does think always in terms of his ultimate task . . . combat.

#### THE STUNTS

There is nothing on a horse that the *Kazak* has not at one time or another tried. They stand on their animals' backs and they crawl underneath their bellies, at the gallop. They pick up objects from the ground while carrying heavy sabres in their teeth. Cossacks can pick up handkerchiefs with their teeth, and this stunt, it might be added, is one of their best. They can ride to a point and halt and jump over their horse's head in almost one single motion, or they can make their animals lie down.

Many stunts originated from military expedients developed in combat. Their horses were taught to lie down in order that the rider might fire from the cover of his mount's belly. Riding standing up in stirrups crossed over the saddle is a normal procedure in one phase of scouting. The reconnoitering Cossack in this position rides up to a hilltop and exposes only his head to peer over it. If suddenly surprised he has only to drop into the saddle, and ride away without the loss of time he might have suffered had he been dismounted.

One amusing stunt which finds its way in many *djigitovkas* is the combination of one man in front of the saddle and riding backward and one man in rear of the saddle of the same horse. The two play cards across the saddle as the animal gallops around.

The Cossack horse is generally smaller than the U. S. Army remount, and for that reason it is well suited for stunt work. The animal is well trained in most cases, and will respond to the Cossacks aids regardless of the latter's position. For combat no man and animal team is more effective than the Cossack and his horse. These and other such stunts serve to perfect this splendid combination for war use.

#### MORALE

The Cossack has never been a pampered soldier. There is no provision for producing a high state of morale among Cossacks except that of SOUND TRAINING. Their *esprit de corps* springs from: pride in their heritage, wholesome competition between individuals, and pride in their horsemanship and skill.

Their distinctive uniforms are also a source of pride with all Cossacks. It is interesting to note that they were the only military units which the Soviet government permitted to keep their former uniforms. Colorings were somewhat modified, but they still retain the same cut of caftan, etc.

#### SUMMARY

Cossack units are not all horse cavalry. In Cossack divisions they supply their own engineers, artillery, and infantry. In addition they possess some mechanized units which have only recently been developed. However, it has been their horse soldiers working both in organized *sotnias*,<sup>2</sup> and in guerrilla groups who have been so effective against the Nazis in this winter's campaign.

Under the Imperial government the Cossacks<sup>3</sup> conducted their own system of public education, and they were the best educated people in Russia then, outside of the nobility. Under the Soviet government they have continued along the same lines though not playing the political part as much as formerly. However, as before they still are the backbone of the Russian Army.

<sup>2</sup>Squadrons.

<sup>3</sup>The Cossacks are titled according to their geographical location as Kuban, Terek, Don, Ural, etc.



**No general can be lucky unless he is bold. He must have a spirit of adventure, a touch of the gambler in him.—General Wavell.**





Red Army AA Battery

## IZVESTIA: Use of Small Arms Against Planes, Tanks

*Expert marksmanship with rifles and machine guns has often given Red Army infantrymen victory over enemy planes and tanks, IZVESTIA said in an article published March 20. Stressing the point that cavalry and infantry should always rely on its own weapons in an emergency rather than leaving the job to the artillery or other powerful weapons, the Soviet Government newspaper points to the need for close coöperation between simple and complex arms. The article said:*

**T**HE Red Army possesses powerful war equipment, including special antiaircraft arms. The simplest fighting weapons applied skilfully and according to perfected methods serve to increase the power of our arms. These simple weapons do not replace special, complex and powerful arms, but coöperate with them, providing additional means of destroying the enemy.

### THE IMPORTANCE OF SIMPLE ARMS

Only truly brave, resourceful and cool men can engage a powerful fighting machine with mere rifles in their hands. Any army in the world may well envy the staunchness and fearlessness of the Red Army men. The German generals may learn something from the

Soviet rank-and-file—to understand the importance of simple arms in modern warfare. Recently a unit commanded by Kolomiitsev brought down two enemy planes by rifle and machine gun fire. A battalion of skiers commanded by Karpov recently beat off an enemy air raid by machine gun and rifle fire, bringing down a German plane.

### RIFLEMEN BAG AIRCRAFT

Red Army men Nikitin, Dorofeyev and Kuzmin, escorting an ammunition train, brought down by rifle fire an enemy bomber which attempted to attack their train. Commissary technician Golomidov brought down a fascist fighter by automatic rifle fire. A unit commanded by Senior Lieutenant Kruchkov in a few days brought down four German planes with fire from anti-tank rifles. Machinegunner Fedorenko set fire to a Junkers with one well aimed machine gun burst. Red Army man Munk brought down an enemy bomber with several machine gun bursts. Red Army man Potukevich brought down a Messerschmitt-109 with a self-loading rifle. Sergeant Melnikov, Lieutenant Stasin and Junior Lieutenant Bambal brought down one enemy plane each after the second or third shot with an ordinary rifle. Such examples are numerous.





Thorough instruction in rifle marksmanship.



Debris of a Nazi bomber.



INDEXED

# Guerrilla Warfare to Increase, Says Kalinin

SOVIET guerrillas will step up the pace of their relentless war behind enemy lines; Mikhail Kalinin, Chairman of the Presidium of the Supreme Soviet of the U.S.S.R., predicted March 17 in an address made to a group of guerrillas who received decorations. He called guerrilla warfare the "most effective way for the people to take part in the war," and said that the guerrilla groups constitute a sort of Soviet government in territory supposedly controlled by the enemy.

Illustrating Kalinin's words came a TASS report that a Soviet guerrilla brigade operating near Leningrad now dominates an area of over 3,500 square miles, including parts of two German occupied districts. These guerrillas recently collected a caravan of foodstuffs which they sent into the beleaguered city. The guerrilla commander and commissar addressed the following letter to the newspaper *Pravda*:

"For eight months our brigade has been fighting the Germans far behind their front lines. As a result of our operations, Soviet rule is virtually restored in a territory over 120 kilometers in length and 80 kilometers in

depth, into which the Germans are afraid to poke their noses. Neither punitive expeditions nor savage air raids on peaceful villages have helped the fascists. Our Soviet district administrations continue to exist behind the enemy lines, and guerrillas using our districts as bases are striking ever stronger blows at the enemies of our motherland. We send you greetings and assure you that the guerrillas will not lay down their arms while a single German remains on our soil."

## KALININ SPEAKS TO GUERRILLAS

In his speech to the guerrillas Kalinin said: "I believe the guerrilla movement is one of the best sources of aid to the Red Army. It is valuable not only because the guerrillas disorganized the enemy rear, because they strike at enemy armament, manpower and communications, because they tire the enemy and keep him always wary behind the front, and because the guerrilla movement brings forth the most courageous and efficient of our peasants and urban workers. The greatest value of the guerrilla movement is that it gives an out-



In areas not suited to motorized vehicles, Guerrillas penetrate German lines and operate against their lines of communications.





GADEED An air-sledge ready to start with detachment of automatic riflemen. CARDED

# Russians Fully Utilize Air-Sledges

A detachment alights from air-sledges in enemy rear.







Guerrillas receive instructions.

let to the hatred and the fighting abilities of the masses of collective farmers and city residents in their struggle against the German invaders.

"Even far behind enemy lines the guerrilla movement is consolidating the population and increasing its confidence that the capture of our territory is temporary. It directly organizes the masses against the fascist invaders. The guerrillas are a kind of representative Soviet government in the enemy rear. In their persons, the rural and urban citizens of temporarily occupied districts see the Soviet Government, and this strengthens their fighting spirit and increases their confidence that the Germans will be driven out.

"Guerrilla warfare is the most effective way for the people to take part in the war. I think that in the spring and summer the guerrilla movement will not diminish in scope. Judging from all indications, it will grow considerably, and the guerrillas will deal ever stronger blows at the enemy rear."

In the last few months the guerrillas have taken full advantage of the Russian winter. Usually wearing skis, they have swooped down on enemy supply columns, slaughtering guards and carrying off or destroying truckloads of military supplies. They have mined highways and railways, blown up bridges, cut telephone wires and collected important information which was transmitted to Red Army headquarters by radio. In February a ski detachment from the Karelo-Finnish Republic

north of Leningrad, made a foray behind Finnish lines. Heavily armed with machine guns and automatic rifles, they captured four villages after defeating enemy garrisons. The Soviet guerrillas held meetings at which the Karelo-Finnish peasants learned for the first time of Red Army victories during the winter. The fascist had told the peasants that German troops occupied Leningrad and half of Moscow.

#### PRICE ON GUERRILLAS' HEADS

The Germans have offered a standing reward of a farm, horse, cow and 5,000 marks cash to any peasant who will betray the hiding place of a guerrilla detachment. Finding their rewards disdained, they have resorted to various ruses in their efforts to entrap the Soviet patriots. Recently guerrillas sighted a number of German trucks loaded with women advancing along a road on which enemy columns had frequently been ambushed. Curiously, many of the women were carrying rifles. A young girl who was cook for the guerrillas was sent out to reconnoiter. She reported that German soldiers had dressed themselves in women's skirts and jackets, seemingly either as a disguise or for protection against the cold. The guerrilla commander promptly led his detachment in an attack on the trucks. The Germans leapt out and ran for cover, repeatedly tripping over their flapping skirts and falling into snow drifts. The German detachment was wiped out.



**If a general shows confidence in his men but always insists on his orders being obeyed, the gain will be mutual.—Sun Tzu.**



CARDED

# Employment of Cavalry

## Use of Cavalry Divisions\*

THE enthusiasm of numerous converts from horses and mules to motors has resulted in considerable propaganda in favor of complete elimination of animals from the modern field of combat. The views of such extremists should be studied with caution not through fear of drastic changes but because their contentions are *not* being borne out on the battlefield.

Mud, deep snow, swamps, jungles, forests, mountains, streams, boulder-strewn hills or fields and other types of terrain *stop* armored vehicles. Troops in otherwise favorable sectors may accomplish the same end within limits by constructing artificial or reinforcing natural obstacles and by the extensive use of antitank weapons and other devices.

In a majority of the above conditions cavalry can still function. Its value in Russia will not be an isolated case if this war continues many years on many fronts. The ability of the Russian forces to fight the winter war of 1941-1942 may be a major factor in the Axis defeat.

German cavalry was used effectively at Gomel in August and east of Bryansk in October. . . . We are unanimous in our desire for speed and power to the limit but when that limit may be defined by conditions of terrain and weather we must be guided by well considered studies and experience and not by wishful thinking.

When armored forces are operating under favorable

conditions of weather and terrain, motorized units for close support are vital. If the period of operations is long, however, the change of seasons may relegate armored forces to a secondary or unimportant rôle. Likewise, if the depth of the theater of operations is great enough, the terrain features are bound to change with a similar effect on the use of armored forces.

If the rate of movement is great, say 100 miles per day, cavalry cannot provide close support for armored forces. Seldom, however, in close combat can armored forces average more than 30 miles per day. Cavalry can provide close support in such situations with less wear and tear than infantry on foot. Streams that are considerable obstacles to armored forces present little or no delay to cavalry. Furthermore, the relative silence with which cavalry operates and its ability to move at night are valuable characteristics. All in all, there are excellent grounds to substantiate the belief of many officers that cavalry still has a definite place under certain conditions of modern warfare although it has been definitely subordinated, if not eliminated, where motors can be used.

The greatest flexibility of thought and organization needs to be maintained in this respect as armored operations will not only vary unavoidably, due to equipment available and terrain, but *must* be altered in technique, intentionally and continually, to achieve maximum results. If the war has taught us only one lesson, it should be that blind adherence to doctrine and convention must fall before imagination and ingenuity, assuming equally good judgment is applied in both cases.

\*An excerpt from *Mobility and Motors*, by Lieutenant Colonel Arthur G. Trudeau, C. E. Instructor, Command and General Staff School. The article appeared in the April, 1942 issue of *C. and G.S.S. Military Review*.

## Cavalry in Russia\*

CARDED

IT is the contention of our military experts as well as many of those abroad that the cavalry arm of the Russian army has been a big factor in fighting the war for Russia. It was this arm that the German army met at Tula, at Moscow and at Rostov and the strength of its blows left the Germans reeling and paved the way for the savagely counter-attacking Soviet army.

Last winter found the Germans knocking at the doors of Moscow; but the intense sub-zero Russian winter made motors virtually useless. Without vast sheds in which to heat their tanks, personnel carriers, and various other army vehicles, for starting in the sub-zero weather, the Germans found their blitzkrieg stalled. It

was then that the Soviet cavalry came into its own, for its horses did not "freeze up" as did the German mechanized army and it could maneuver over deep snow that stalled the German tanks and cars.

The power of an army depends to a great extent upon its maneuverability and its mobility, a mobility that is not confined to favorable conditions; such was the German army that invaded Russia last year. This according to military experts was the one flaw in the German war machine that rolled on so successfully until the Russian cold and counter-attacking Soviet cavalry brought it to a halt and ultimately drove it backward.

This week's war news again brings the Soviet cavalry to the fore. For Russia is now in the process of thawing out from what has been described as the

\*Front page, *Army and Navy Journal*, May 2, 1942.



hardest winter in many years. The vast plains and fields are described as "spring swamps" which have bogged down other ground forces. The Soviet cavalry in an ever broadening scale are harassing the Germans at every turn by lightning raids on villages, communications, supply depots, etc.

According to the most reliable estimates—and it must be remembered that they are estimates—the Russians used more than 200,000 animals for cavalry purposes during the winter campaign. Another 800,000 animals were utilized for draft and pack purposes. These figures compare to: 50,000 cavalry animals possessed by the Germans, plus some 910,000 additional for draft and pack purposes; 325,000 draft and pack animals by the Japanese and 50,000 cavalry animals; and 25,000 animals for cavalry use by the United States plus 12,000 for draft and pack purposes.

However, if reports received in this country, (chiefly through correspondents for the Russians have not allowed any military observers to gain any comprehensive material on their campaigns or plans) the Soviet cavalry arm soon will be bolstered by powerful cavalry armies that have been training in the rear of the main lines. . . .

From the meager reports filtering from the Russian battlefield, the Russian cavalry is not having too great difficulty with the German tanks, armored cars, etc. When these vehicles attack, the cavalry scurries to terrain where the operation of automotive vehicles is out of question. All the crack Soviet cavalry personnel are taught how to handle hand grenades for blasting stalled armored cars and tanks, mortars for lobbing shells on unsuspecting Germans, and automatic arms to provide firepower in their lightning charges.

The achievements of the Russian cavalry speak pretty much for themselves. They have performed a job in hurtling the Germans from fixed positions, blasting stalled armored or mechanized units, or conducting forays against behind-the-lines positions. They were particularly effective during the sub-zero weather when the German mechanized elements bogged down and during the next few weeks of Russian "thaw" should be just as troublesome for the Germans.

One phase of the use of cavalry to aid the hard-pressed Soviet army has been the guerrilla cavalrymen that have hammered at the Germans since the invasion of Russia began. . . .

CARDED

## Airborne Troops

TROOPS transported by air include parachutists and troops transported in gliders or transport airplanes.

The speed and range of modern aircraft permit landing of these troops over wide areas and their employment in surprise attacks.

These troops have the same mobility as infantry after they land. They will try to capture civilian and military vehicles to afford themselves rapid transportation.

Parachute troops are most vulnerable from the time they leave their transport plane until they are able to collect their weapons and form for action after landing.

Troops transported in gliders are most vulnerable from the time they are cut loose from the towing airplane to the time they are able to form for action.

Troops transported in airplanes are most vulnerable from the time the airplane is landing to the time they are able to form for action.

### EQUIPMENT

Only light weapons are carried on the person of the descending parachutist, while heavier weapons are parachuted separately, usually in different colored chutes.

The weapons of air landing troops include all types of infantry weapons, light artillery and light tanks.

### PLANS FOR DEFENSE AND OFFENSE

Plans must include provision for *immediate* attack of hostile landing forces.

Provision must be made to prevent the obtaining of vehicles by hostile troops which may land successfully.

It is particularly important that plans of fire and

movement be *prepared* and *practiced* so that friendly troops do not fire into friendly troops.

Be prepared at all times to meet promptly, boldly and aggressively any attempted landing by troops transported by air. Practice defense measures, and *rehearse* prepared plans.

Insure a thoroughly reliable and timely warning service equipped with suitable means of signal communication.

Coördinate defense activities with those of the local civil defense agencies, and with the air force in that area.

Conceal naturally, or camouflage, weapons for sited defense.

Destroy the parachute troops while they are descending, or as soon as they land. Do not permit them to gather their heavy weapons and reorganize for ground operations.

Destroy troops in gliders and transports while they are landing. This requires *coördination* with the air force in that area, and the blocking with obstacles of the possible enemy landing sites.

Block their attempts to gain motor, and other, transportation; for whatever tactics troops transported by air employ, they must work quickly. Bold prompt action may be decisive.

As an indication of the importance of proper measures, troops transported by air have been landed in actual warfare at the rate of 3,000 fully-equipped troops per field per hour.



# Impressions of THE AMERICAN ARMY

*By Lieutenant Ricardo Bouroncle, Peruvian Army*

EDITOR'S NOTE: *Qualified by his two year's experience as an officer attached to European Cavalry forces, his graduation from the United States Cavalry School, Fort Riley, Kansas, and his experience with his own army, Lieutenant Ricardo Bouroncle, now stationed with the 11th Cavalry, tells our readers how our army compares with others.*

TEN months ago I came to the United States of America from Europe where I had been sent by my government, the Republic of Peru, to study foreign armies. It had been an unusual experience and a very rich one, for I was attached to the French army for two years, during which time I had seen the war explode and the German army invade France. Moreover, I had



RICARDO BOURONCLE  
1st Lieut., Peruvian Army

an opportunity to study the armies of both France and Germany in action. With this background I came to the United States. In my first impressions of the American army I was amazed. With eyes of a fresh observer, undimmed by constant association with your army, I now propose to give you a short commentary on some of the outstanding characteristics of the American army, which are so different

from those of other countries. I will also essay a brief comparison between the American army and those of Europe and my own country.

My experience with the American army includes three months with the 1st Cavalry Division, two months of which I spent with them on maneuvers in Louisiana, and then the basic course at the Cavalry School at Fort Riley. At present I am serving with the 11th Cavalry.

## DISCIPLINE

After observing the contrast in discipline between the French and German armies, my first wish was to study the discipline of the American army. On this subject I feel I should offer preliminary explanations, since I now realize that some of my first impressions were misleading, due to my early lack of understanding of the psychological peculiarities of your people.

After having observed the weak discipline of the French Army, I naturally was strongly impressed by the iron discipline of the triumphant German army. This observation led me to the natural conclusion that strict discipline is indispensable to an army, and that an army's efficiency is in direct ratio to the rigidity of its discipline.

In the United States Army the discipline is very far from being rigid. My first and logical conclusion, therefore, was that your army is not a good one. But I soon found that I had carelessly disregarded another factor which I later perceived—the people, the absolute democracy of your country, each individual's highly developed sense of duty. After I had appreciated these fundamental differences in your people, I saw my mistake.

While discipline in your army exists, it is an inner discipline, a discipline not always apparent to a new observer. Your discipline differs from that of other armies because you are a different people. To understand your discipline, it is necessary to live a while with you. I stress this point because foreigners' first impressions were that your army lacked discipline.

## MORALE

Each war problem in this country that I have attended (and particularly in the Louisiana maneuvers) I have observed evidence of high morale and a strong combative spirit among your soldiers—combative spirit translated into the ability to attack.

When your soldiers attack, they work with enthusiasm and exploit to a maximum their initiative and athletic qualities. They advance rapidly and resolutely, with confidence in themselves as individuals rather than in depending upon their leader. They advance resolutely because the order is to attack, which they understand because in all their American school games it is the offensive which is stressed and which succeeds. They advance rapidly because your people, both young and strong, have the ability to move and have the love of movement—the faster the better.

On the other hand in the defense your soldier usually looks for a good place to rest. His feeling for camouflage, for example, is often expressed by his ability to hide in a place of maximum comfort.

In other armies the defense is conducted far more realistically. This may partly be caused by the ever-



present threat of invasion among countries who are packed closely together. Threat always hovers just across the border. The people of those countries, and the soldiers, sense this and therefore take the defensive with more appreciative feeling. In some countries there still exists a frontier, where the people must defend themselves against predatory animals and still uncivilized natives—the forces of nature in the raw. This also tends to make a people appreciate the cold seriousness of defense. Though this condition once existed in America, the present generation knows nothing of it.

To sum up, I believe that the outstanding morale qualities of the American soldier are 1—great aptitude for the attack, 2—self-confidence, 3—initiative. Furthermore, I believe that your high command appreciates and is exploiting these qualities in evolving your doctrine of war.

#### DOCTRINE OF WAR

My knowledge of your doctrine of war has been gained more through study of your books and military publications than through actual experience in your army. Through these means I have learned that your predominate goal is movement—rapid movement. It is speed—always speed in the attack—and the augmentation of this speed to the point where the factor of surprise results. You believe—and I agree—that this factor is all-important to victory.

In the defense you also believe in movement—in active defense. You believe in never sitting and waiting but always in searching, pursuing and destroying. Not for euphony have the names “antitank battalion” and “antitank squadron” been changed to “tank destroyer battalion” and “tank pursuit squadron.”

This policy of rapid movement extends to your zone of the interior, to supply and evacuation. Your idea is to perform these functions at high speed. It extends also to production where your ideal is speed in the manufacturing of the materials of war. It is war against time—the principle of always exceeding the speed of the adversary.

Another of your goals seem to be flexibility of organization. This I have observed in the field, where I have seen units emerge with the greatest facility. You consider the situation, the terrain, the enemy. You form units according to these factors. This is in accord with the psychology of the American people who, in all their activities, are accustomed to solving problems rapidly and with originality. Furthermore, they are never satisfied with any solution, as are the people of other countries, but are continually searching to improve each method.

For example in France the people and the army acted upon the experience of the previous war. Their problems they thought would be solved for all time by the establishment of a system of fixed defenses, immensely strong. When this solution proved to be incorrect, they were lost. With the originality of the American people

and their talent for improvising I believe this fatal error will never be committed here.

The Nazi army, on the other hand, believes in flexibility as its very essence and this flexibility it employs in its training. It is, however, a flexibility of preconceived plan more than of actual practice. When the preconceived plan blows up, as in Russia, the flexibility is lost because it is integrated with the plan and does not arise from the ability of the army to improvise and organize according to conditions. I believe that the American army will be able to maintain its flexibility of organization in the face of the unexpected, unlike the Nazi army.

Your ideal of flexibility of organization is, moreover, the most difficult to achieve. I believe that it can be carried out only by a command which possesses to the highest degree the qualities of competence and resourcefulness.

#### SMALL UNITS—ANTITANK

Among the small units I have seen employed in your maneuvers, one which impressed me most was the antitank. This unit has two outstanding characteristics; it is 1—an arm of grazing trajectory firing a projectile of great penetration, and 2—an arm of great mobility. The excellence of these characteristics of your antitank units give them maximum efficiency.

The 37-mm. gun is easy to operate, adaptable and simple to employ in the field. In its destructive action it acts in conjunction with the 75-mm. gun. Furthermore, there exists the possibility of some day evolving a gun with a calibre between the 37-mm. and the 75-mm. These armaments provide your antitank units with their first characteristic—grazing trajectory and a projectile of great penetration.

The second characteristic—great mobility—gives these units enormous possibilities. This characteristic is provided by your invention and development of the bantam, which has revolutionized the possibilities of these units, since they had previously been comparatively immobile and passive in their action.

The bantam has, in fact, resulted in incorporating in your antitank units the doctrine employed elsewhere—that of active, positive defense, in this case against tanks. These units can now overtake and overcome enemy tanks, loot them and pursue them to destruction instead of merely waiting for them. In effect they attack the attacker. To justify my admiration for these bantams, I relate the following incident which took place in the Louisiana maneuvers:

At midnight the 1st Cavalry Division was to cross the Red River, about 20 miles south of Bossier, with the aim of attacking and taking Shreveport, which lay in enemy territory. When most of the troops of the 1st Cavalry Division had crossed the river, word came that tanks of the 81st Reconnaissance Squadron of the 2nd Armored Division (enemy) were approaching to attack. The antitank squadron of the 1st Cavalry Division, commanded by Major Don E. Carleton, took



the mission of stopping the action of the enemy tanks.

The terrain in this country is covered with thick but low vegetation. It was sufficient to penalize the action of the tanks and cover the action of the bantams. As the tanks came by, clanking like boiler factories and thus revealing their positions, the bantams, quiet and secretive in their action, surrounded and overcame them one or two at a time.

The umpires signaled that one or two bantams were lost in each action. But the tanks were numerically outnumbered and the action was repeated several times until in four hours the thirteen tanks, four half-tracks and several enemy bantams—in short the entire 81st Reconnaissance Squadron—was destroyed or captured.

#### RECONNAISSANCE SQUADRONS

The reconnaissance squadron has great application in modern warfare. It has, however, among others these problems to solve: 1—it must be mobile; 2—it must have sufficient fire-power to enable it under certain circumstances to culminate its reconnaissance mission in combat; 3—it must be sufficiently independent in organization and administration to be able to operate alone and independently of the higher echelon.

Before the introduction of mechanization the horse reconnaissance squadron solved these requirements to perfection. It was very mobile. It carried sufficient fire-power to fulfill its mission of contacting and scouting the enemy. Moreover horse cavalry can live off the land.

In your actual reconnaissance squadron of the cavalry division, horse, you solve the first two problems of mobility and fire power to perfection. In fact you have greatly increased the mobility and fire-power. But in your present reconnaissance squadron you have more than 300 vehicles—all dependent upon contact with higher echelon for gas and oil. The third problem is, therefore, not solved, for you have lost the former complete independence of the horse squadron, whose fuel was grass.

The purpose of the reconnaissance of scout car troops is executed mediocrity because the scout car has too many dependencies—an opinion which I believe is shared by many officers and chiefs of the United States Army. My experience with your army has given me the opportunity of observing the operation of the bantam troop of your reconnaissance squadron, however. Its operation I believe to be excellent, for the bantam provides essentially mobile transport. This troop is, in fact, a mobile or portéed infantry. It combines mobility, elasticity and fire-power. I know nothing of larger units of this type but, if they exist, I expect to hear big

things from them. It must be obvious from what I have said that it is the bantam which most impresses me of all the vehicles of the American army. It is one magnificent vehicle! And how could anyone say it is not magnificent when he has seen it wrapped up in a tarpaulin and floated across a river like a boat?

And one thing more about the bantam. This little car is just the right vehicle to make surprise attacks in gassing the enemy. In maneuvers I have seen this action completed successfully several times.

#### LIFE WITH YOUR ARMY

These characteristics and facts about your army have impressed me most. In conclusion I would like to say something about Fort Riley and life with the American army.

At Fort Riley there were fourteen Latin-American officers who took the basic course. Because of the language our study there was rather difficult. But the assistance and painstaking coöperation of the instructors and our fellow students made it possible for us to complete the course satisfactorily.

Our three months' stay at Fort Riley gave us the opportunity not only of appreciating the American military teaching methods, the study of American armaments, conduct of small units, etc., but, also, above all, to live in close contact with American officers. Furthermore, we had the double opportunity of becoming acquainted with them both professionally and socially. This acquaintance has resulted in greater confidence in your officers and, consequently, in the American army.

Furthermore, the American officers had the opportunity to become better acquainted with us and to observe us in our studies and our work. Thus we hope they formed a high opinion of us and, consequently, of our military institutions. As a direct result of this mutual understanding and confidence, I believe that the coöperation between our countries in the present conflict will be facilitated.

This effect should be greatly strengthened by the fact that while we were attending the Cavalry School there were about one hundred other Latin-American officers in the other service schools of the United States.

I believe I am speaking for all my fellow Latin-American Officers when I say we are happy and grateful to have had this opportunity to study and observe the methods of instruction in the service schools of the United States. We sincerely hope that in the future this interchange of officers, with its resultant improvement in mutual understanding, will be greatly increased.



**The great questions of the day are not decided by speeches and majority votes, but by blood and iron. . . .**

**(In a declaration to the Prussian house of delegates, 1862.)**

**—Bismarck.**





## BRAZIL ARMS

To meet "the heavy new duty of the army in the maintenance of public order and national defense," President Getulio Vargas







signed a decree April 8th boosting Brazil's army from fewer than 100,000 to 1,200,000. Besides, with trained reserves, Brazil

—which broke relations with the Axis last January—called for voluntary enlistments under the presidential decree.





# Editorial Comment

## NEW EDITOR

THIS issue of *The Cavalry Journal* represents the final one to appear under current editorship. Opportunity is here taken, therefore, to express deep appreciation to our contributors who have rendered such fine, sympathetic understanding and assistance; and to our readers, their kind indulgence of our efforts.

Deserved commendation is given to our staff: To Miss Christine Harbour, our capable office assistant, who for the past five years has given unstinted support and efficient, courteous and administrative effort in promoting the interests of The United States Cavalry Association; To Master Sergeant Amand J. Thissen, DEML, for his loyal, energetic, and painstaking handling of varied and sometimes exasperating duties connected with circulation during the past three years; To Garrett and Massie, Richmond, Virginia, for their patient cooperation and excellence in printing achievement.

Following the publication of this issue, Colonel Edwin Miles Sumner, Cavalry, assigned to the Requirements Division, Headquarters, Army Ground Forces, will succeed to the editorial chair of *The Cavalry Journal* and will serve as Secretary-Treasurer of The U. S. Cavalry Association.

Colonel Sumner is well known to all cavalrymen. Until recently he was Personnel Officer in the Office, Chief of Cavalry, and since has served in the Military Personnel Division of the Services of Supply. His diverse and balanced military background, marked by foreign service and considerable periods of administrative, command, and school duty, lend seasoned judgment to the selection and evaluation of material intended for presentation to readers of *The Cavalry Journal*.

The editorial pencil is hereby transferred to Colonel Sumner with best wishes and the conviction that under his guidance the aims and purpose of The Cavalry Association will be fostered.

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## General Herr Honored

On May 15th Major General John K. Herr, U.S.A. Retired—President of the U. S. Cavalry Association—was conferred an honorary degree of Doctor of Science by Lafayette College, Easton, Pennsylvania.

General Herr attended Lafayette College prior to entering the U. S. Military Academy.

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## The U. S. Cavalry Association

There seems to have been a slight confusion among

several of our younger officers regarding Cavalry Association membership and liabilities thereto. This probably is due to the substance of Article IV, Section 4, of the Constitution of the U. S. Cavalry Association, which appears on our "Enrollment Blank" as follows:

"Any member may withdraw from the Association at the end of any current year by tendering his resignation . . . but such withdrawal or lapse shall not operate to relieve such members from liabilities to, or as a member of the Association, incurred prior thereto."

Membership in the Association automatically includes subscription to *The CAVALRY JOURNAL*. According to the constitution, *active* membership (which includes the privilege of voting for election of officers at the annual meeting) is restricted to General officers and cavalry officers. This, in fact, is now largely a matter of form, the number of officers present at the meetings rarely exceeds a hundred, so the proxies are necessary to constitute a quorum. Associate membership has similarly been extended to all officers and enlisted men regardless of arm or service and to civilians.

The principal activities of the Association at present, other than the *JOURNAL*, are limited to the operation of a Book Department to help finance the overhead requirements and to promote certain "missionary" projects as may be desirable, for the benefit of cavalry and the service in general. All of the membership net dues is consumed in the publication of *The CAVALRY JOURNAL*; and, in turn, the *JOURNAL* obviously is dependent on the collection of dues.

The quotation of the constitution on the application card, therefore, is for our assistance in the collection of dues (or subscription fee), for in the past, some accounts were allowed to run for several years before being dropped as a dead loss. In other words, a "paid-up" member may resign at any time that he so desires and the necessary adjustment of his account can be made; for as long as the *JOURNAL* is mailed to him, the cost is approximately the same as the dues owed.

The *CAVALRY JOURNAL* is published in the same general manner as any commercial magazine, but without benefit of paid advertising. All that we expect—according to the constitution—is that members pay their dues (\$3.00 annually) in advance and keep us informed as to correct rank and address so that *The CAVALRY JOURNAL* can reach its proper destination without delay.

We believe that *The CAVALRY JOURNAL* is worth its cost to our members, otherwise, it would be discontinued! The *JOURNAL* is a non-profit, self-supporting activity. The greater the membership (or circulation)



the better the JOURNAL. It seems only fair and right therefore that all cavalymen should share the financial obligation of the ever-increasing cost of production of the JOURNAL and assist us by promptly paying their dues without the necessary added cost of repeated billing.

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### Side-Saddle and Sam Browne Belt

The side-saddle and the Sam Browne belt can be discussed jointly, as both developments are the result of infirmities—and are just about as useful.

In Europe, several hundred years ago, riding side-wise by women with feet enveloped in a voluminous skirt, was popularized solely because a French princess set the fashion to conceal her deformed spine. In England the side-saddle as well as many other styles and customs, was first introduced by Anne, daughter of the King of Bohemia, first queen of Richard II in 1388. Again, during the reign of Queen Elizabeth, the side-saddle was further popularized because a member of her royal household had a withered right limb, which was not noticeable when she rode sideways wearing a full skirt. Thus, we find that the side-saddle was originated to camouflage infirmities rather than developed either to benefit women or to improve horsemanship.

The Sam Browne Belt, officially known as the *Officers Belt M-1921*, derives its name from General Sir Samuel Browne, an English officer who served in the early campaigns in India. Having lost an arm in battle, he devised the belt so that he might carry his saber despite his physical handicap. In Europe during World War I the Sam Browne Belt was generally accepted as an "officer's badge." Since that time, however, with no restriction on its use by the uniformed civilian miscellany, and now with its use or a cloth belt optional by officers, the original purpose of the Sam Browne Belt for us has become nullified.

It would seem, therefore, that the utilization of all leather at this time should be limited specifically to those necessary purposes that will materially further our war effort!

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### His Satanic Majesty

Adolf Schicklgruber Hitler in *Mein Kampf* wrote: "At the bottom of their hearts the great masses of the people are more likely to be poisoned than to be consciously and deliberately bad. In the primitive simplicity of their minds they are more easily victimized by a large than by a small lie, since they sometimes tell petty lies themselves but would be ashamed to tell big ones."

"An untruth of that sort would never come into their heads, and they cannot believe that others would indulge in so vast an impudence as gross distortion. Even after being enlightened, they will long continue to doubt and waver, and will still believe there must be some truth behind it somewhere. For this reason some part of even the boldest lie is sure to stick—a fact which

all the great liars and liars' societies in this world know only too well, and make base use of."

—*Utterances of Hitler in 1933-4, as vouched for by Hermann Rauschning:*

*Hitler's Plan:* "I have no scruples, and I will use whatever weapon I require. . . . We shall undermine the physical health of our enemies, as we shall break down their moral resistance."

*War:* "War is but cunning, deception, delusion, attack and surprise."

*Chivalry:* "Generals, in spite of the lessons of the war, want to behave like chivalrous knights. I have no use for knights."

*German Empire:* "Germany will be Germany only when it is Europe as well. Without power over Europe we must perish."

*Mexico:* "If we had that country we could solve all our problems. With the treasure of Mexican soil Germany could be rich and great."

*Education:* "Universal education is the most corroding and disintegrating poison. . . . There must be only one possible education for each class."

*Christianity:* "Fascists will not prevent me from tearing up Christianity root and branch and annihilating it in Germany. . . . One is either a German or a Christian: you cannot be both."

*The U.S.A.:* "This is the last disgusting death-rattle of a corrupt and outworn system which is a blot on the history of this country. . . . It is a mistake to assume that it was a danger to us in the last war. Compared with the British and the French, the Americans behaved like clumsy boys. The American is no soldier."

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### Death to Spies!

In recent press dispatches there have appeared accounts of the shooting and hanging of spies by the Axis powers; also, accounts of spies in America who have been found guilty and sentenced to light jail terms.

It is probable that a lenient policy in dealing with spies and saboteurs will encourage their activities. It is difficult, therefore, for our "rank and file" to understand why we should feed and protect these enemy termites, while our own troops are being exposed to sanguinary enemy action based on the information of their spies. Let us remember that *we are at war!* We legally should give *death to enemy spies*. Why not?

The following excerpt from Page 507, *Military Law and Defense Legislation*, by Schiller, is quoted:

### JURISDICTION

(Digest of Opinion of the Judge Advocate General, Apr. 6, 1918.)

In time of war a spy, whether he is in the military service or not, and whether his offense is committed within or without a fort or camp or a 5-mile zone, is triable before a general court-martial. The war power



vested in Congress by the Constitution incidentally authorizes Congress to create military tribunals with the customary jurisdiction. In construing the Constitution it is possible and necessary to appeal to international law. In time of war, by international and military law, spies are within the jurisdiction of military tribunals. A. W. 12 provides that "General courts-martial shall have power to try . . . any other person who by the law of war is subject to trial by military tribunals." A. W. 82 provides that "any person who in time of war shall be found lurking or acting as a spy in or about any of the fortifications, posts, quarters, or encampments of any of the armies of the United States or elsewhere shall be tried by a general court-martial or by a military commission, and shall, on conviction thereof, suffer death." The context and history of A. W. 12 and 82 show that the words "or elsewhere" do not restrict the jurisdiction to the immediate neighborhood of fortifications, posts, quarters, or encampments, but in modern conditions cover the entire area of the United States.

### Ideal Leadership

"In our military history three men stand out as ideal types of leaders—George Washington, Winfield Scott, and Robert E. Lee. In analyzing the character of these men we find almost identical qualities. Considering the military side of each we find, first of all, that they were endowed with a sense of public duty that impelled them to sacrifice every personal consideration in behalf of their respective causes. They had everything to lose and practically nothing to gain by their sacrifices. For their day, each was a man of the highest professional attainments; each was a man of unquestionable moral and physical courage. They were intensely human; they were stern taskmasters, exacting the utmost of their followers; but not one of the three ever exacted more of his men than he did of himself.

Considering the personal or non-military side of their characters we find them to be men of the highest sense of honesty, justice and decency. They possessed many other attractive qualities calculated to distinguish them and aid them in their leadership; but the qualities just considered were those that compelled the respect, the confidence, the admiration, and loyalty of their followers."—*Officers' Manual by Moss.*

### Change of Address

The publication of Special Orders is now Restricted. Orders showing change of station of our members, therefore, are no longer available to us. For this reason, it is requested that changes of address (or A.P.O.) and title be furnished us without delay upon any change of address. The CAVALRY JOURNAL will reach you wherever the United States mail is carried. Use the *change of address card* provided as an insert with this issue.

### Far-East Time Variations

Japan is 14 hours ahead of Washington Standard Time, Hawaii, 5½ hours behind it. The international date-line runs between Midway and Wake islands, making Midway and all points west of it later than Eastern Standard Time, while Wake and all points west are ahead of Eastern Standard Time.

This table gives the time in the principal points involved in the war when it is noon in Washington, Eastern Standard Time. (1:00 PM Eastern War Time.)

Samoa . . . . .	6:00 A.M. Same Day	Moscow . . . . .	8:00 P.M. Same Day
Hawaii . . . . .	6:30 A.M. Same Day	Bombay . . . . .	10:30 P.M. Same Day
Berlin . . . . .	7:00 P.M. Same Day	Dutch East	} 12:30 A.M. Next Day
Singapore . . . . .	Midnight Same Day	Indies	
Manila . . . . .	1:00 A.M. Next Day	Tokyo . . . . .	2:00 A.M. Next Day
Sydney . . . . .	3:00 A.M. Next Day	Wellington, }	4:30 A.M. Next Day
London . . . . .	6:00 P.M. Same Day	New Zealand }	

### American Soldier of Today Taller, Heavier Than in 1917

An increase in both weight and stature distinguish the modern American soldier from the average citizen-soldier who entered the Army in 1917, was revealed by the War Department following a study of medical records.

In 1917 the average man entering the Army was 67.49 inches in height, but the records show the present soldier is 68.19 inches tall. This constitutes an increase of .7 of an inch.

The average weight of the 1917 soldier was 141.5 pounds, whereas the man entering the Army today tips the scales at an average of 151.3 pounds, an increase of 9.8 pounds.

### Erratum

In the March-April issue of The CAVALRY JOURNAL, bottom of Page 20, the Japanese word Shosha (Major) should be Shosa.

### Mechanized Kitchens



Too much kitchen paraphernalia for a bivouac or even a temporary camp. A compact kitchen truck with the necessary built-in fixtures — all ready to move at a moment's notice — obviously would be preferable under all weather conditions and climate.



**Wanted!**

—a copy of *The Cavalry Journal*, July, 1923!

Recently, we have had several requests for copies of our July, 1923, issue, but regrettably, other than our bound file copy, none is available to us.

It will be appreciated if anyone having a spare copy will mail it to The Editor, *THE CAVALRY JOURNAL*, 1719 K Street, N.W., Washington, D. C. Postage plus 50c will be refunded promptly!

✓ ✓ ✓

**Wanted**

Major General Innis P. Swift, Fort Bliss, Texas, desires to purchase a copy of *Cavalry Outpost Duties*, by F. de Brack, published in 1893 and now out of print. Anyone having a copy for sale is requested to communicate direct with General Swift.

✓ ✓ ✓

**Army Initiates Program to Conserve Gasoline and Rubber**

The War Department has announced that army units and posts have been instructed to operate motor vehicles on a minimum schedule necessary for the training of troops and the administration of installations in order to conserve rubber and gasoline.

All commanders have been instructed to take steps to reduce the operation of motor vehicles, conserve the expenditure of gasoline, and conserve rubber. Included in measures to conserve the expenditure of gasoline and consequent conservation of rubber are:

- (a) Pooling the use of motor transportation.
- (b) Use of animal-drawn vehicles where available or obtainable.
- (c) Elimination of all unnecessary trips.
- (d) Strict accountability for loading to the maximum usable pay-load.
- (e) Maintenance of power plants properly tuned up, brakes properly adjusted, wheels properly aligned and tires, properly inflated.
- (f) Prevention of idling motors while waiting for loads or passengers.
- (g) Enforcement of the principle that army vehicles will not be used to transport military personnel to or from homes.

✓ ✓ ✓

**"The Locators"**

Army wives by the thousands have settled down in towns, hamlets and cities all over the United States while their officer husbands serve overseas. Families from Hawaii, the Philippines and the Canal Zone have returned to the States to live and wait for the return of their menfolk.

At Fort Leavenworth, where Army officer wives are more fortunate in that their husbands have not yet left the country, Mrs. Charles R. Bathurst, wife of Lieutenant Colonel Charles R. Bathurst, an instructor at the

Command and General Staff School, conceived the idea of keeping in touch with officer wives. She, and a number of other wives, started a volunteer group known as The Locators. This organization set up a filing system to keep tab on the addresses of all army officer wives. In due time the location of any officer's wife will be available to her friends. No lists will be released for commercial use.

Recently organized, The Locators already have an extensive list of addresses and have sent out mailing pieces urging all army officer wives to register their addresses with the organization. Inquiries for the addresses of wives are sent in with a self-addressed postal card and the information, if on file, is returned.

The Fort Leavenworth women are donating their time to the organization and the Officers' Club on the post has furnished free office space from which the organization operates.

✓ ✓ ✓

**Coincidence**

Major General George S. Patton, Jr. commands the army's Desert Training Center—"Little Libya," where mechanized units are participating experimentally in maneuvers.

A noteworthy coincidence is the fact that General Patton's grandfather on horseback campaigned in the *Indian Wars* near the very spot where the base camp is located. General Patton, himself formerly a cavalryman, therefore, is thoroughly familiar with the extensive desert training area which extends into three states—and is doubtless aware that the airplane-tank-horse combination, under unified command and aggressive leadership, as demonstrated by Russia, is potentially the most redoubtable weapon in modern armies today!

✓ ✓ ✓

**Censorship**

Everyone should be thoroughly cognizant of the provisions of Section III, War Department Circular No. 113, April 17, 1942—"Policy governing release of military information."

✓ ✓ ✓

**Notice**

We recently have had several individual requests for "restricted" manuals. The correct procedure for securing any "restricted" documents is to make application through your commanding officer, and then only if duty assignment is of such a character that it is necessary in the line of duty. Application is then made by the commanding officer to the Publications Section of the Adjutant General's Office.

✓ ✓ ✓

**Save! !**

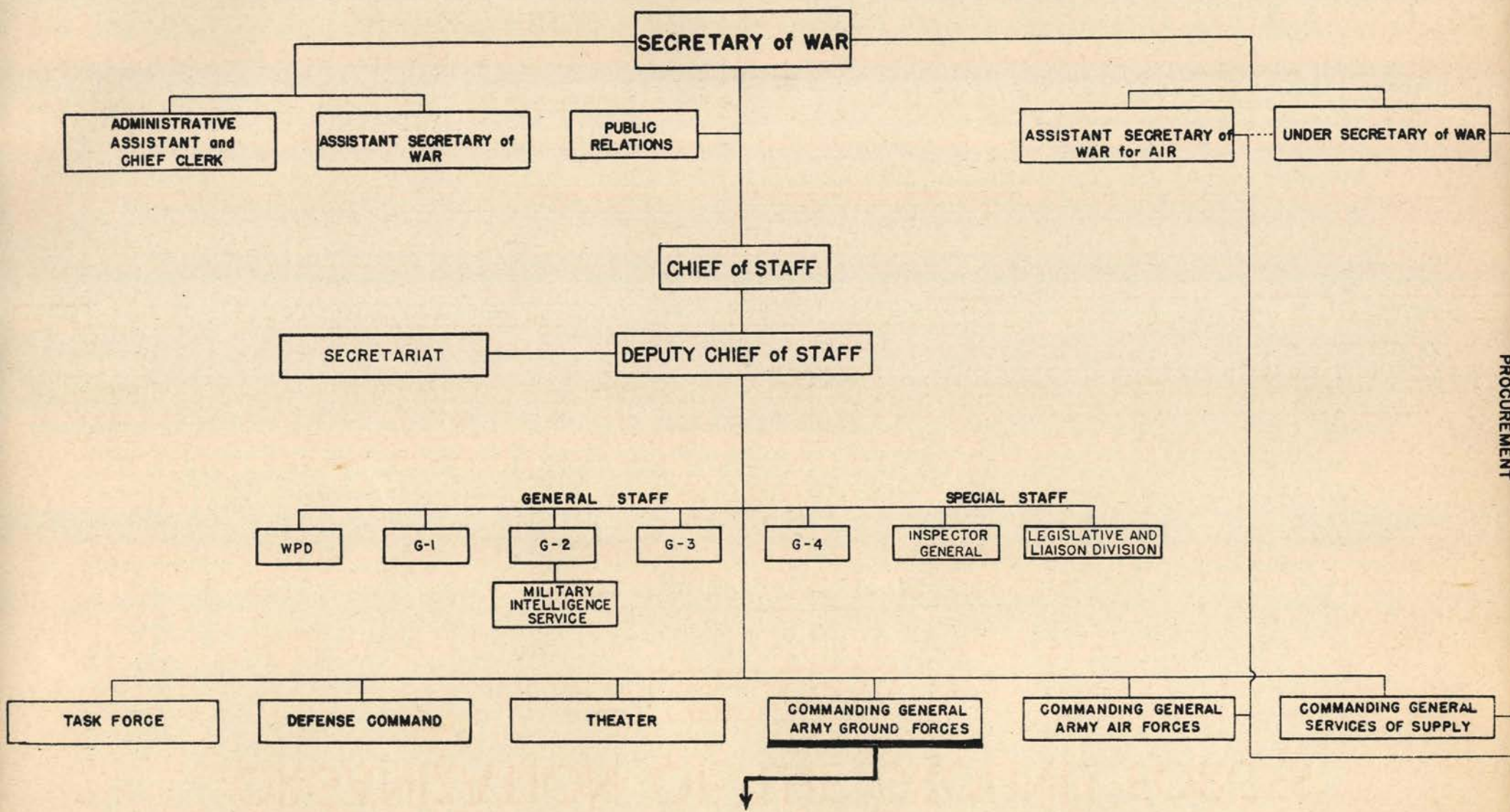
In previous issues we repeatedly have appealed to everyone to "Save before we have to—"

Well, now we have to—for VICTORY!



# ORGANIZATION OF THE ARMY

CARDED

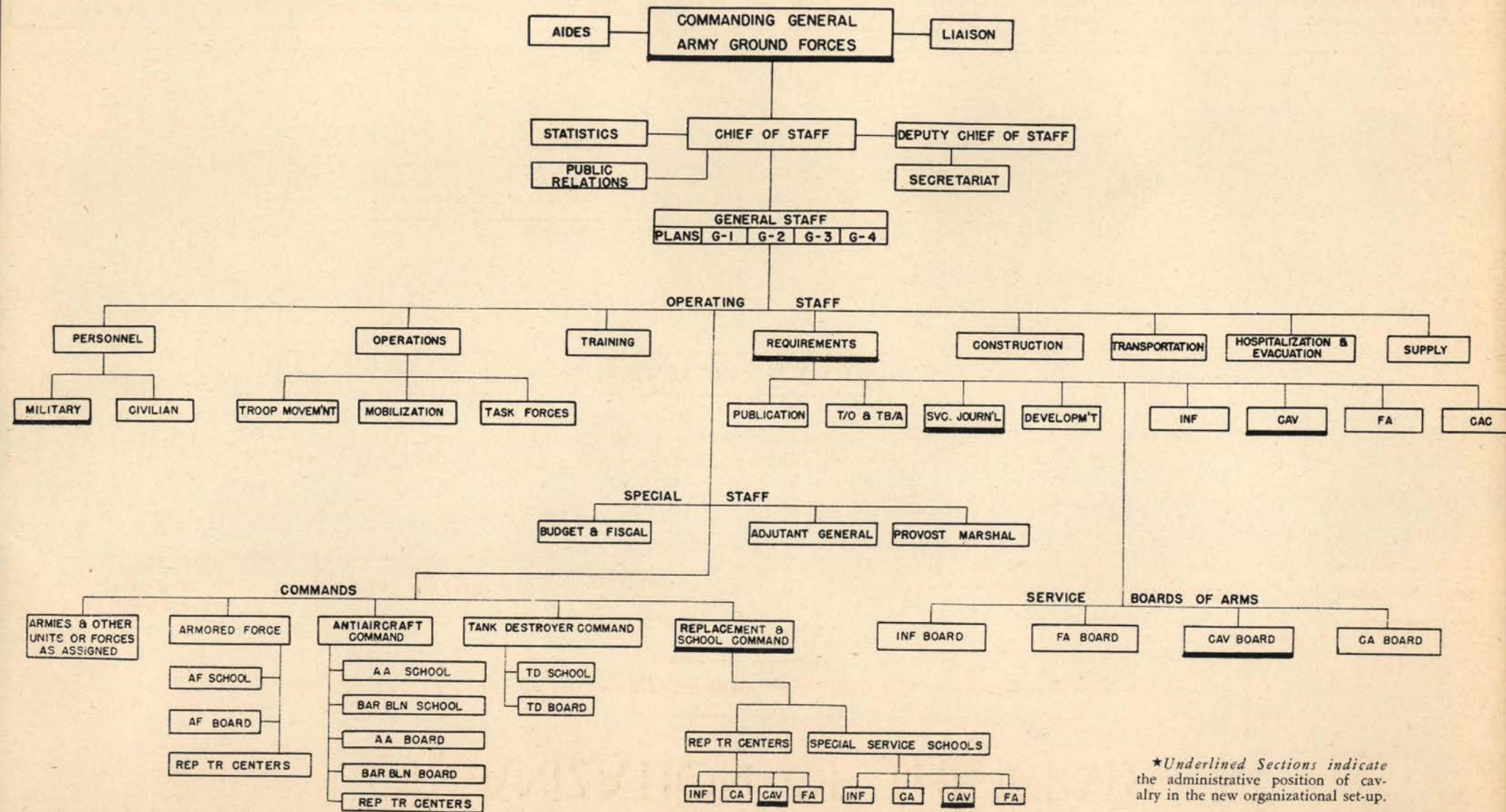


PROCUREMENT



# ORGANIZATION OF THE GROUND FORCES\*

CAT. 370



\*Underlined Sections indicate the administrative position of cavalry in the new organizational set-up.



# General Hawkins' Notes

THERE is a great deal that I would like to write in these Notes for The CAVALRY JOURNAL that the Censor would not allow. And rightly so. Questions of organization, equipment and tactics, for the purpose of fighting our enemies in this war, cannot now be published or openly discussed. Some comments, however, can be made on items that have already been published. It is well known that I believe firmly in the value of cavalry as a general proposition; but neither I nor anyone else should now publish any ideas as to when, where or how cavalry may be used in this war. The fact that we still have cavalry should convince any anxious cavalrymen that the War Department believes that we may have to use cavalry somewhere at sometime. Cavalrymen should rest on that fact!

In the March-April, 1942, issue of The CAVALRY JOURNAL an article from Australia appears entitled "They Ride Again." Apparently, they are going to have a considerable force of cavalry fighting in Australia if the enemy invades that land. The peculiar thing about Australian mounted troops is that they call themselves "mounted infantry." This was noted also in the Palestine Campaign in 1917. The Australian "mounted infantry" of that campaign was practically the same as our cavalry. That is to say, it was trained to fight both mounted and dismounted, and actually did so. That is the kind of cavalry we have always had. Why the Australians call it "mounted infantry" is hard to understand. Perhaps it is because the European cavalry was organized and trained to fight only mounted except for rare occasions when dismounted action was resorted to as an expedient. The European cavalry, however, had created a lot of "dragoons" by the time that the World War had commenced in 1914, and they did a great deal of dismounted fighting; but they were not well equipped or trained for it. European soldiers often called our cavalry "mounted infantry" because it *was* well armed and trained for dismounted action.

It has always seemed to us that the term "mounted infantry" was a misnomer, since there is no reason why

horsemen should not be able to fight mounted or dismounted equally well. At any rate, we had the right to call such a force "cavalry" if we chose to do so. There would be no sense in having cavalry able to fight only mounted, and another mounted force able to fight only dismounted.

Another strange thing about this article, "They Ride Again," is that, in discussing the large number of horses available in Australia, the writer says that the horses are not up to standard for cavalry horses, but are ideal for mounted infantry. He says that they are not heavy enough for cavalry. It would certainly appear to us that any horses light enough to be saddle horses and heavy and strong enough to be good for mounted infantry should be suitable for the kind of cavalry we believe in.

The article also states that "in the event of invasion, a new form of guerrilla warfare with mounted troops is almost certain to develop." What he means is that the cavalry will engage in a type of warfare similar to guerrilla warfare. Guerrilla warfare, as understood up to this war, was a form of warfare conducted by partisans or civilian combatants who were usually without the uniforms of their country's army and were subject to hanging or execution by firing squads of the enemy if captured. The cavalry of an army, in proper uniform, could engage in very similar operations without being considered as beyond the protection of International Law if any were captured. We quite agree that modern cavalry operations may take on such a guerrilla form in a very useful way.

This goes again to emphasize what I have written before to the effect that in our cavalry the leaders of small units, from the squadron down, must be trained to a high state of initiative. I do not mean to say that cavalry will be confined exclusively to some form of guerrilla warfare, but in some countries and under some conditions this would be most effective.

In any case, we have many horses in America, and they should be utilized in our total war effort.



## FIGHT!

**A nation is not worthy to be saved if, in the hour of its fate, it will not gather up all its jewels of manhood and life, and go into the conflict, however bloody and doubtful, resolved on measureless ruin or complete success.—Garfield.**



CARDED

# Air Combat Power

By F. O. Cooke\*



FROM Hannibal's waddling elephants to Hitler's screaming Stukas, military history proves repeatedly that a powerful new offensive weapon is the surest short-cut to victory. In the long-engine long-range or heavy bomber, America possesses the strongest single striking force on world battlefronts today.

Equipped with the turbo-super-charger, the latest Flying Fortresses and Liberators operate at elevations over 35,000 feet, with a range of more than 3,000 miles and a bomb load of 4 tons, at 300 m.p.h. The Norden bomb sight enables them to blast ships, harbors, fortifications, industrial centers and troop concentrations in broad daylight, unseen and unheard at their terrific height, a thousand miles inside enemy territory.

Daylight bombing of the Axis naval base at Brest had immobilized for several months the German warships *Gneisenau*, *Scharnhorst*, and *Prinz Eugen* until soupy weather grounded the long rangers and gave the imprisoned ships a chance to escape. The Fortress was first used here in July, 1941, from altitudes so high that in midsummer the planes were covered with frost, and first warning of the attack was the scream of the bombs. Used against German or Japanese industrial centers, it would shatter both production and morale.

When the prototype of the Fortress, the Boeing 299, was first planned in 1932, and flown in 1935, most aeronautic experts scoffed at it as a fantastic waste of material. But in two years of war, American foresight and air engineering have been fully vindicated in their

buildup of the heavy bomber. Consolidated's Catalinas and Coronados are the mainstay of the Atlantic patrol. It was a Catalina which spotted the *Bismarck* and led the British fleet in for the kill. A Lockheed Hudson, converted for patrol bombing, recorded the first capture of a submarine by an airplane.

## FORTRESSES VS. JAPS

Even more significant is the showing of the Flying Fortresses against the Japanese. The few heavy bombers available in the battle of the Pacific have taken almost a 10 to 1 toll of Jap fighter planes sent against them. They have bombed Bangkok, Jaluit, and Malaya, and blasted Jap fleet concentrations. The hard-pressed Dutch, asked what was most needed to save the Indies, answered, "Send us four-engine bombers. Send us destroyers and submarines if you can, but first of all, heavy bombers."

Even the early model B-17's, which European experts scornfully dubbed "Flying Targets," proved highly effective and not so vulnerable in the battles of Britain and Libya, where a lone Flying Fortress beat off nine ME 109's and returned safely home. Improvements based on observation of their performance on these fronts have caused five major changes in this model during the past five years, rendering old assembly lines and production units obsolete, and sharply limiting the supply of these complex weapons.

If American aviation facilities were stepped up today to the claims made on paper for 1943, a United victory

\*Courtesy *The Leatherneck Magazine*.



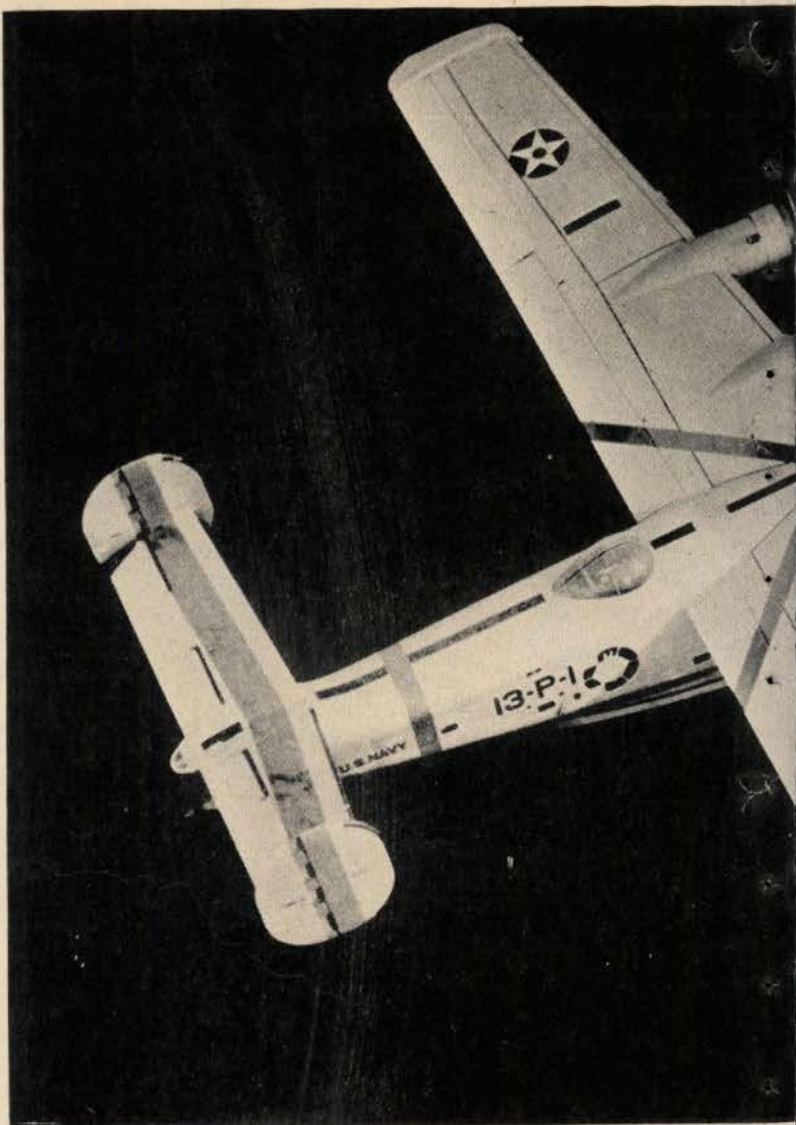
would be certain within the year. For flocks of these devastating death-birds, operating from bases in Greenland, Iceland or Ulster, flying high above ack-ack and fighter patrols, could lay waste in sustained daylight bombing the entire German industrial and communications nerve centers, coming and going unscathed, since the Axis has not yet developed pursuit planes which can operate successfully in the stratosphere. In the word of Winston Churchill: "Even if the Nazi legions stood triumphant on the Black Sea . . . even if Hitler were at the gates of India, it would profit him nothing if at the same time the entire economic and scientific apparatus of German war power lay shattered and pulverized at home."

But as the British have found, to be decisively effective not twenty or thirty (the number they had on hand late in 1941), or even the 2,000 Flying Fortresses a British Air Marshal once mentioned as the amount needed "to clean up the job in short order," would be enough. "Strategic" bombing is a long-time policy, to be maintained over many months and across endless miles of enemy territory. Great fleets of thousands of bombers are needed on all fronts, and needed now, before some method of counteracting their deadly fire can be devised.

The long-range bomber today doubles in brass for both land and sea artillery. A full bomb-load discharged at 10,000 feet equals the effect of a battery of howitzers at point blank range. Heavy bombers, unopposed, can outmaneuver heavy cruisers and battleships, although these planes are not at their best against ships at sea. Britain has found them a more than satisfactory substitute for French coastal artillery and the silenced guns of the Maginot Line. At this point in the history of strategy, the heavy bomber is supreme on land and sea.

But in the first months of 1942 no power in the world had sufficient long-rangers to launch an all-out offensive. The war has clearly developed into a production race. The late Sir Frederick Banting predicted: "Which ever power gets up to 40,000 feet first and can stay there longest with the heaviest guns (and the greatest number

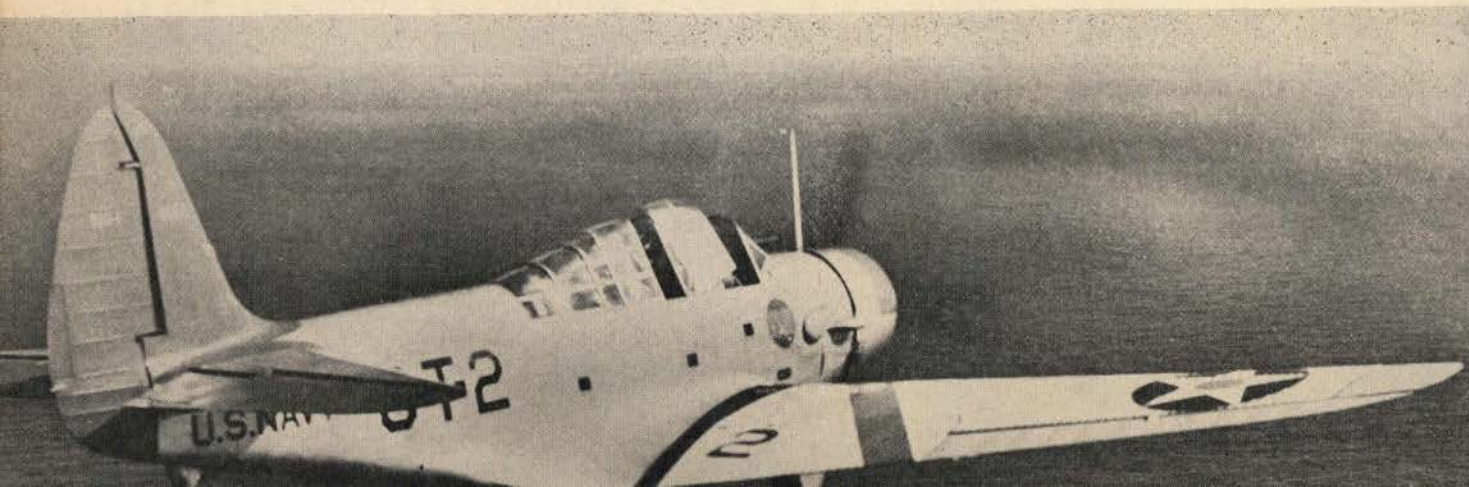
"The Devastator," carrier based Douglas dive-bomber of the Navy. This ship is also used by the Army under the designation A-24.



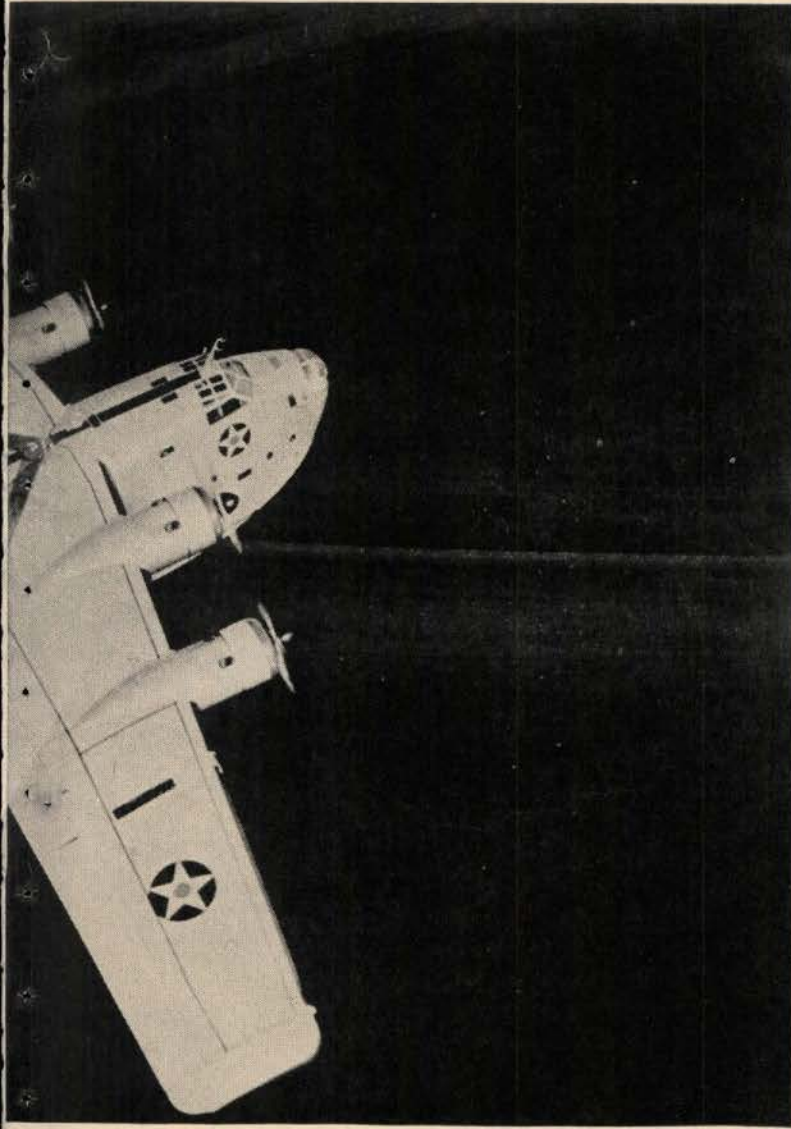
The Coronado by Consolidated is rated one of the most powerful patrol bombers in the world. Because patrol bombers must travel long distances

of planes) will win the war." In other words, the most efficient production line will win.

Heavy bombers are not easy to produce in quantities sufficient for more than mere guerrilla attacks on enemy bases. Each one costs around \$300,000. There are 54 stations on Consolidated's 3,000-foot assembly line, with a six-hour stop at each station.







unescorted, the Coronado has heavily armed power turrets in nose, tail and sides. Its range is 5,200 miles with seven tons of bombs.

Acres of strategically located and well protected floor space, tons of specially designed machines, stockpiles of raw materials (U. S. weakest link at present), and hundreds of thousands of skilled workers are needed. The number of drawings involved is about 17,000, the total number of parts almost 40,000, each small piece requiring meticulous design and tooling.

Not all nations can meet these exacting requirements. Japan lacks floorspace, raw materials, and skilled labor. Her system of farming out the manufacturing of machine parts to small independent companies makes assembly and tolerance of parts extremely difficult. Proof of her troubles is her inability to duplicate the giant Douglas DC-4, although a model plane was sold to her to break down for analysis, and Douglas even licensed the blue prints over to her. Japanese workers could not reproduce it.

#### JAPS LACK HEAVY BOMBERS

Forced by the ABCD economic blockade to strike before she was fully ready, Japan's failure to show much air strength in Luzon after the fall of Manila means that she hasn't enough planes to fight all-out on more than one front. If she could have followed up the assault on Pearl Harbor with hourly bombings by fleets of her Mitsubishi 92's, the war in the Pacific might have been over as soon as it started. But Japan just doesn't have the planes.

Germany too was unprepared for long-range bombing. Field Marshall Hermann Goering may have begun with a quixotic vision of a Luftwaffe of bemedalled knights of the air driving the muddled British from the skies. But over-boldened by her diplomatic success at Munich, Germany pushed herself into large-scale warfare two years before her air force was mechanically strong enough to blitz Britain into blightly. She could muster only enough strength for one blow at a time, as at Coventry. Unable to follow through with sustained blitz bombings she watched the RAF prove too tough in manpower and machine quality, and gain rapidly in quantity, thanks to American aid and increased production at home.

Then his yellow ally's rabbit-punch at Pearl Harbor convinced Hitler that the age of chivalry was over. Not Aryan racial or scientific superiority would win in the

Old Faithful of the Atlantic Patrol is the Consolidated "Catalina" patrol bomber. It was this type of ship that shadowed the ill-fated *Bismarck* and led British surface ships in for the kill. She has a range of 4,000 miles and the side blisters indicate she is well able to take care of herself.





air, but stark machine strength, firepower, and force of mechanized numbers. Heavy bombers, not speedy pursuit ships, were winning the world's air battles. This is doubtless the cause of his recent coolness toward Goering and the current lull in Nazi air activities over Europe. Hitler's engineers are working overtime to overcome their initial misplacement of emphasis on individual fighter planes and dive bombers. (Four prominent Nazi airmen recently died in crashes on experimental flights.)

Biggest dark horse in the field of aviation is Russia, whose air leaders planned and built giant bombers years before the U. S. Like so many USSR innovations—parachute troops, gliders, air-borne cannon—these were long regarded as Buck Rogers stunts until practical use by the Nazis made them all too real.

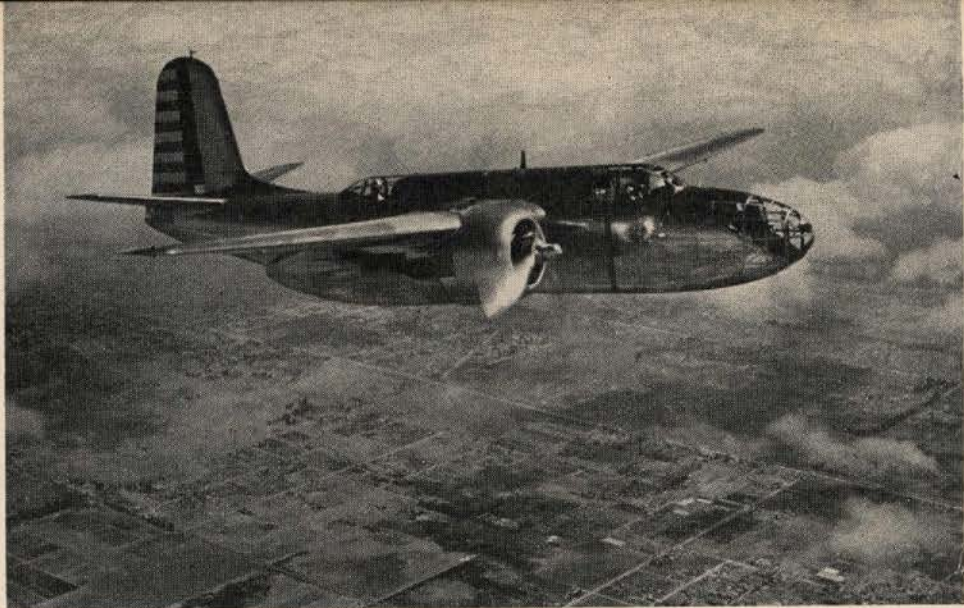
Exact status of the Red air force is strictly secret. There can be little doubt that even as far back as Lindbergh's visit in the early 30's, they showed only second-rate stuff to visiting firemen. Americans, they said, talk too much. They kept up the same pretense in the war against Finland, causing Hitler to underestimate their true strength.

But the USSR air force must be plenty good to have stopped even a tired Luftwaffe cold enough to permit the recent Russian land victories. The Soviets have long had the highest percentage of heavy bombers; more than one-fifth of total fighting aircraft. Their strategy demands 3,500 combat planes for every nine corps of troops.

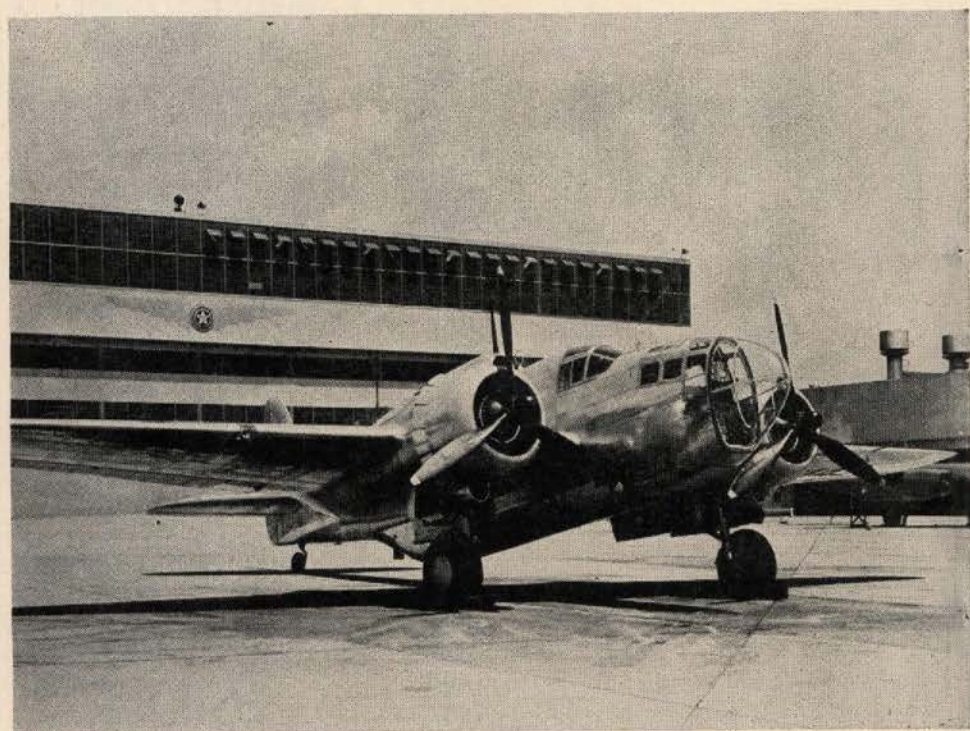
Although they have shown few long-range bombers thus far, the Soviets doubtless have many more surprises up their sleeves like the "flying tanks" which mowed down German mechanized units before Moscow, and were so heavily armored that only direct cannon hits could damage them. Other Russian rarebits may be a six-engine long-ranger, and a transport biplane carrying troops between the wings.

Of all the warring nations the USSR alone has the resources in her immense industrial plants back of the Urals, to challenge America's production supremacy.

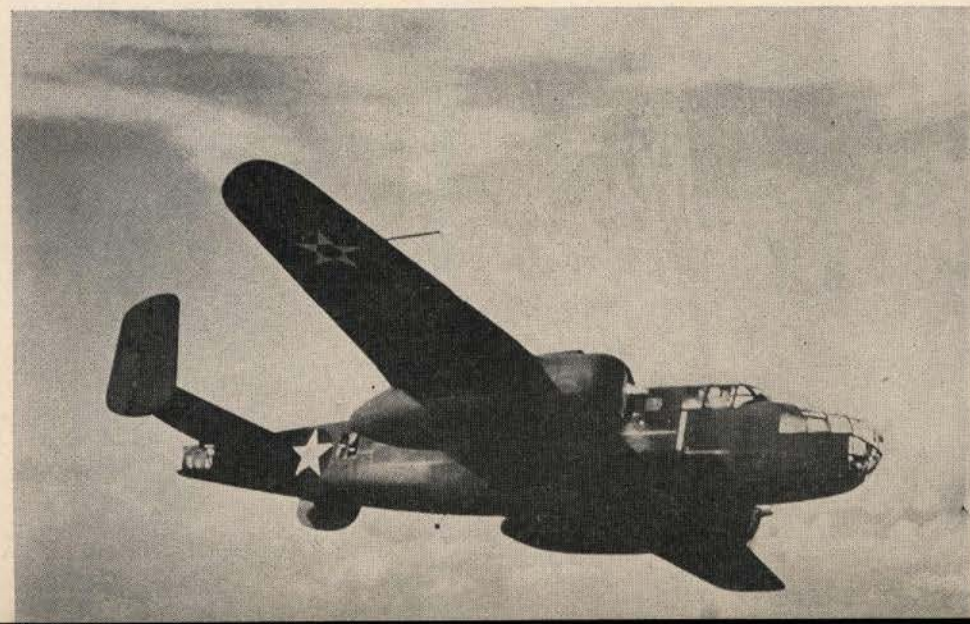
Britain's entry in the long-range



*Top*—Douglas two-motor attack bomber and *below* the famous Martin Baltimore.



*Below*—North American's AB-25 medium bomber rates higher than most European planes of its class.







*Above*—Famous Vultee Vengeance dive bomber of the Navy and *below*—North American medium bombers on the line.



*Below*—Dauntless dive bomber of the Marine Corps is one of the most feared planes on the battlefronts.



sweep-stakes is as recent as last September, since RAF authorities even late in 1940 derided the usefulness of the giant bomber. Then the fall of France and the Lowlands took out of Allied hands the French bases England had planned on using, putting German planes at England's door, and German targets six times farther away from English bases than the British centers were from the new Nazi points of attack.

Thus to bomb Germany and Italy, and carry the crucial Libyan-Mediterranean campaign through successfully, planes were demanded having great cruising range and bombing power. The heavy bomber again had to take the place of both artillery and battleship.

#### U. S. AID ESSENTIAL

Britain now puts out three bombers of this type: the Handley-Page Halifax, the Short Stirling, and the Avro Manchester. These have already made successful raids on Occupied France and Nazi troops in Libya. But Britain needs far more of them before she can carry the war to German centers and repay the Nazis for the razing of Coventry and London's "rain of fire." Her limited industrial potential makes U. S. aid essential if this is to be more than a paper victory. As soon as she begins putting out a new model plane as was the case with the Defiants which wreaked such havoc with Hitler's dive bombers at Dunkirk, the enemy seeks out the production unit and bombs it into uselessness. Like Australia and the Dutch Indies, England looks to America for the planes which will turn the tide of victory.

Axis engineers are planning feverishly to overcome our present advantage, by designing interceptors with a ceiling equal to that of the heavy bombers. For just as air power is proving the decisive factor in the war, so altitude, more than range or speed, is the decisive factor in air power today. What makes the Flying Fortress supreme is not its range, which is not as great as that of Nazi or Italian planes, or its speed, which can not match the latest fighters or attack-bombers. It is its ability, through the turbo-supercharger, to maneuver in the stratosphere, higher than any pur-



suit plane can follow. The nation which can maintain altitude supremacy is the nation which will win the war in the air. The Germans are experimenting on a plane with a 50,000 foot ceiling.

Flying in the stratosphere is like floating through a haunted house. Breath comes short; air is cold (40 to 73 degrees below zero). Strange things happen to the motor without a supercharger: greased bearings freeze fast, instruments fail for lack of pressure, vapor locks develop. Stranger things happen to a pilot without a pressure cabin: nitrogen bubbles in his blood, an arm or leg may be suddenly paralyzed, or his eyes may see double. Rubber de-icing boots grow brittle and crack to pieces. Camouflage paint peels and flakes like dandruff on return to earth. Both men and machines must be of superior mold to survive the terrific strain.

Major R. W. Schroeder, once holder of the 38,180 foot altitude record, exhausted his oxygen at that height and plunged unconscious for five miles, but miraculously landed safely. The 67 degrees below zero temperature had frozen his eyeballs, but the motor functioned well enough. Men, not machinery, are likely to crack in stratosphere bombing.

#### U. S. LEADS STRATO FIELD

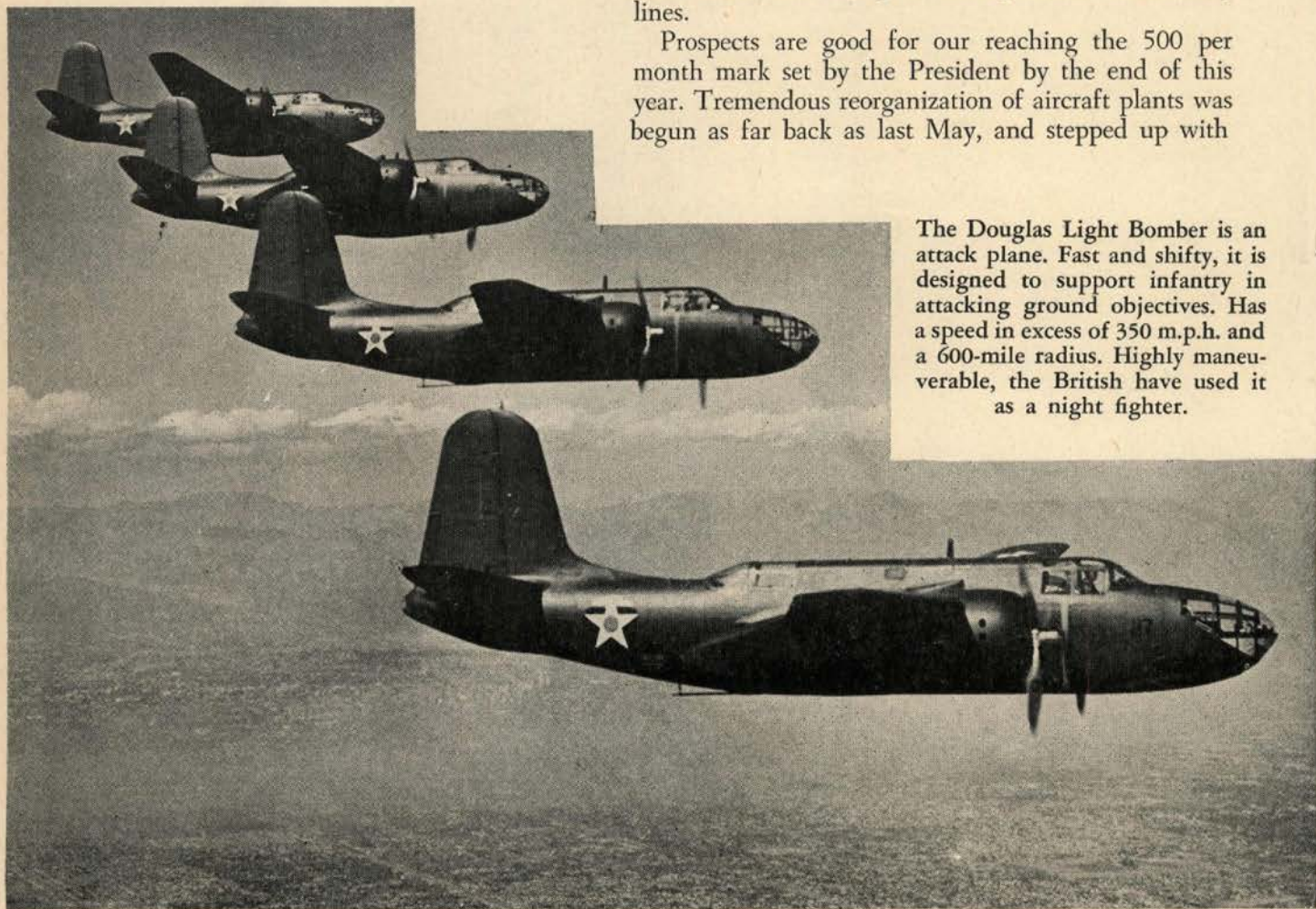
Americans are peculiarly well equipped to hold the lead in the production of the stratosphere bomber. It is the logical weapon to have developed in a land of lofty

mountains and vast distances. We have the raw materials (once existing bottlenecks are wiped out), the skilled labor, the floor space and proving grounds, the pilots in training. Test flights to meet stratosphere conditions are now being held by Boeing at a cost of \$1,000 per hour, testing new plastics, insulations, substitutes for oil and grease, and pressure suits, as seen in the picture "Dive Bomber." No other nation, except possibly Russia, can come close to us in this field. Our problem now is to get the planes off the drawing boards and into the air fast enough to maintain our present lead.

This means freezing present designs, cutting down on variety of specialized types, and combining their best features into one or two models for mass production, the same process England went through in putting out enough Spitfires and Hurricanes to hold the Luftwaffe at bay. Experts say the world's finest planes are still on paper, some in U. S., many on Axis drawing boards. But to produce them means complete upheaval of existing facilities, another year or two of delay before planes roll off the lines. And we cannot afford to wait. The present lull in Axis air activities indicates an all-out industrial effort to match or better our new four-engine bombers, dive bombers, flying boats, and pursuit ships.

Even since the President's speech on January 6, plane production statistics have filled the air like news clippings in prop wash. Planes by hundreds and thousands have been rolling off these pen-and-ink assembly lines.

Prospects are good for our reaching the 500 per month mark set by the President by the end of this year. Tremendous reorganization of aircraft plants was begun as far back as last May, and stepped up with



The Douglas Light Bomber is an attack plane. Fast and shifty, it is designed to support infantry in attacking ground objectives. Has a speed in excess of 350 m.p.h. and a 600-mile radius. Highly maneuverable, the British have used it as a night fighter.



the government's recent recommissioning of automobile factories to manufacture plane parts and machine tools.

#### POOLING POTENTIALS

Holding the shotgun, since his appointment last May as Assistant Secretary of War for Air, is Robert A. Lovett, alumnus of the famous Yale Unit of flying volunteers. In devotion to air power as more decisive than troops or ships, he follows the late General Billy Mitchell, who was court-martialled during the lull in American defense. Now that the Nazis have proved Mitchell was right, Lovett is getting the job done by walking more softly, talking more persuasively. He is responsible not only for pooling of manufacturer's potentials, but for organization of the Army Air Forces into striking units. Lovett is by no means all talk and reorganization. In World War I, as a Navy bomber pilot, he won the rank of Lieutenant Commander and the Navy Cross, still flies his own plane when he has time.

Exactly what type of plane will emerge from the new production process is of course a closely guarded secret. But from specifications already released, a general idea of the various types of planes may be inferred.

For stratosphere bombing, at heights of 25,000 to 30,000 feet, we will have the B17-E or Flying Fortress, the B-24, Consair's Liberator, and the still experimental B-19's exhaust-driven turbo-supercharger, and power driven turrets, innovations which have held up assembly lines for months.

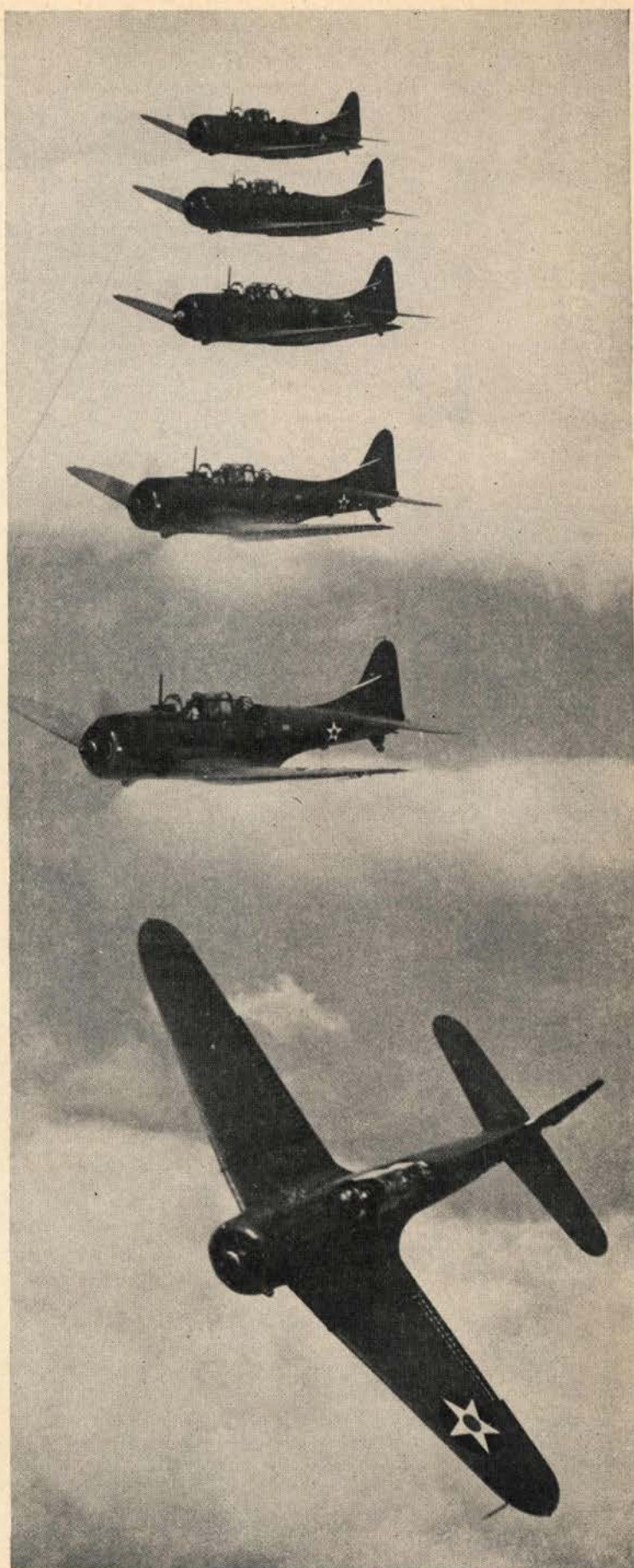
#### B-17E WORLD'S HIGHEST

When completed, the B-17E will have a top speed of over 300 m.p.h., a radius of action (to target and return) of 1,700 miles (which means a total range of 3,600), bomb load of 4 to 5 tons, ceiling over 30,000 feet, highest in the world.

The B-24 is a bit smaller and faster: 1,500 mile radius, 26,000 ft. ceiling. Its unorthodox Davis-Caltech thin section wing permits low drag and easy handling.

The B-19, an 80-ton experiment by Douglas, is slow (200 m.p.h.), has a wing spread of 212 feet (almost twice the B-24), but can stay aloft two full days, cruise 7,500 miles with 8 tons of bombs.

The British have giant bombers almost as big; their latest, the Handley-Page Halifax, has a wing span of 99 feet, 4 liquid-cooled in-line Rolls-Royce Merlin motors (considered by air-men among the world's safest), greater bomb capacity than the Fortress, but less speed, range, altitude. The Short Stirling is similar in size and performance, also has 37mm cannon in power



Dauntless dive bombers of the Army Air Corps peel off to deliver a direct attack. These ships are reputed to be far superior to the famed German Stukas, although still not the top dive bomber in this country.



driven turrets, but has Hercules radial air-cooled engines, and maneuverability, after bombs are dropped, superior to the crack Nazi Me 109 pursuits, which the Stirling consistently out-fights.

Nazi bombers of the giant type include the Heinkel 177, reported to have a range of 7,000 miles with 1,000 lbs. of bombs. Chief Scourge of Atlantic convoys are the Focke-Wulf Kuriers, a 4-engine bomber version of the transoceanic Condors Germany used to run to South America. These carry either 30 armed soldiers or several tons of explosives, besides the standard bomber crew of six. Like the British Stirling and Halifax, they carry cannon in power turrets and bomb bulges. Their service ceiling is 28,850 ft., range 2,300 miles at 224 m.p.h. Both these giants as well as the big Junkers, Ju 96, can do better than 300 m.p.h. But the British claim that in spite of their speed and heavy armor, they have not worked too well for the Nazis. Also disappointing, and curtailed in production, is the new 4-engine Dornier DO-19, weak in horsepower, altitude, speed.

A new Nazi plane recently crashed by a balloon barrage in Britain had a range of 4,500 miles at 200 m.p.h., or a cruising speed of 294 m.p.h. at 19,000 feet. Powered by two fan-cooled 14 cylinder radial motors, it can carry either torpedoes or bombs, 4,000 pounds. A special brake in the tail makes it a dive bomber as well. A development of the Dornier "Flying Pencil," it could be a definite threat to all but our latest high level bombers.

Japan has only one 4-engine bomber type, but it is bigger than the Boeing B17-C. The Japs have jammed features copied from four foreign planes all into one. The Mistubishi 92 is a 144 ft. baby, hybrid offspring of the Wellington, the Douglas DC-3, the He 111 and

the Junkers G39. Performance figures for this plane are not available, but lacking both supercharger and bomb sight, it cannot be used for stratosphere bombing.

The Italians hold the world's distance record with their Savoia-Marchetti 82, of which they have an estimated 100 in reserve. They are now testing the Piaggio P 108-C, a 4-motor bomber transport, as well as experimenting with a plane without propellers, driven by air jets sucked through the nose.

Likewise in the experimental stage is the Soviet V-760, a 6-engined giant with a wing span of 144 ft. equal to the Douglas B-19, but weak in horsepower, and hence lacking range and altitude. Like the Short Stirling, it has a tremendous bomb capacity. The Reds also have in their old model TB-6 a twin-engined bomber capable of carrying a 6,600 bomb load 310 m.p.h. at 26,240 ft. This is a high-level bomber, but not up to the Fortress or Liberator.

Bombing at 15,000 to 25,000 feet is less dependent on good weather, more accurate, still fairly free from A.A. fire. Greater bomb loads are possible than in stratosphere bombing. Targets can be more restricted: instead of a general district or town, definite docks and factories can be hit. But risk of interception and deflection from combat planes becomes greater as the bombing range is made more accurate, hence the need for heavy armor and high maneuverability in this class of plane.

In this field as well, U. S. Army planes may lead the world. The Martin B-26 (called the Marauder by the British), so new that complete performance figures are still secret, has two 1,850-h.p. engines, flies at more than 350 m.p.h., can carry 3 tons of bombs more than 2,000

Barrel-Bodied Brewster Buffalo fighter has been called by British Far-East pilots "unbeatable for close quarter combat." The Buffaloes are prime favorites with the Dutch and have proven their superiority in many encounters with the Japs.





miles. It is thus an improvement over the Baltimores and Marylands which, with British Wellingtons, Whitneys, Manchesters and Hampdens, have been carrying on the bulk of RAF raids on Germany, Italy, Libya. United planes seem to have the edge on the Axis here too.

#### NEW NAZI BOMBERS

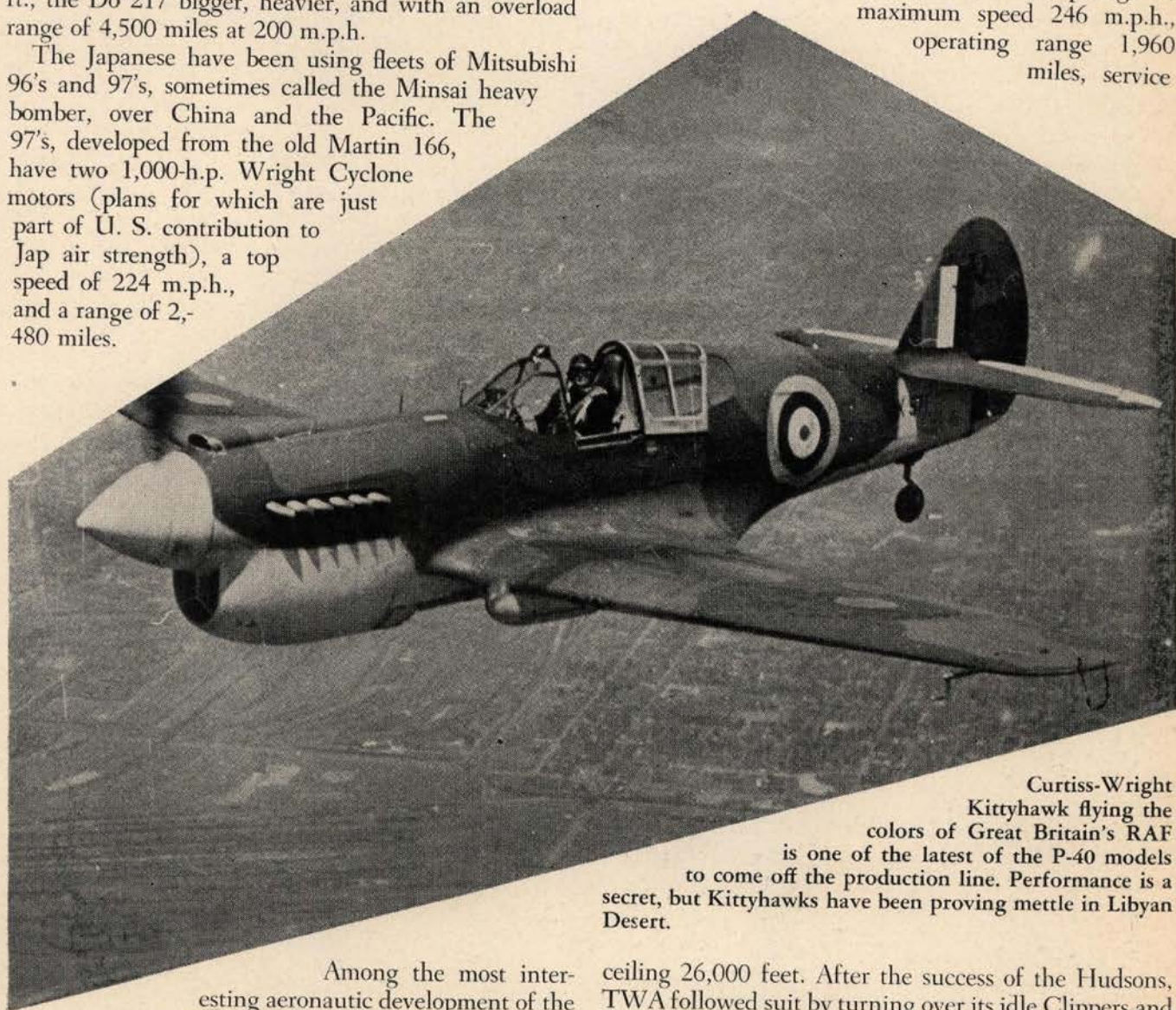
Latest German 2-engine bombers, said to be powered with 2,000-h.p. motors, include a new Henschel and the Heinkel He 119. Already in use are the Dornier Do 215 and 217, the former with a maximum speed of 311 m.p.h. at 16,400 ft., and a service ceiling of 29,600 ft., the Do 217 bigger, heavier, and with an overload range of 4,500 miles at 200 m.p.h.

The Japanese have been using fleets of Mitsubishi 96's and 97's, sometimes called the Minsai heavy bomber, over China and the Pacific. The 97's, developed from the old Martin 166, have two 1,000-h.p. Wright Cyclone motors (plans for which are just part of U. S. contribution to Jap air strength), a top speed of 224 m.p.h., and a range of 2,480 miles.

ruggedness. They came through the hell of Dunkirk with the upper skin of their wings wrinkled from dive bombing. New sets of wings were replaced in four hours. Out of more than 100 in action, each plane making from 6 to 8 trips ferrying officers and men back to England, only 7 planes were lost.

More of these successful transplants have been ferried across the stormy Atlantic than any other model. Leaving from secret landing fields in Newfoundland, they make the crossing in some 12 to 15 hours.

Performance figures for these Lockheeds are: two 900-h.p. Cyclone or Wasp engines, maximum speed 246 m.p.h., operating range 1,960 miles, service



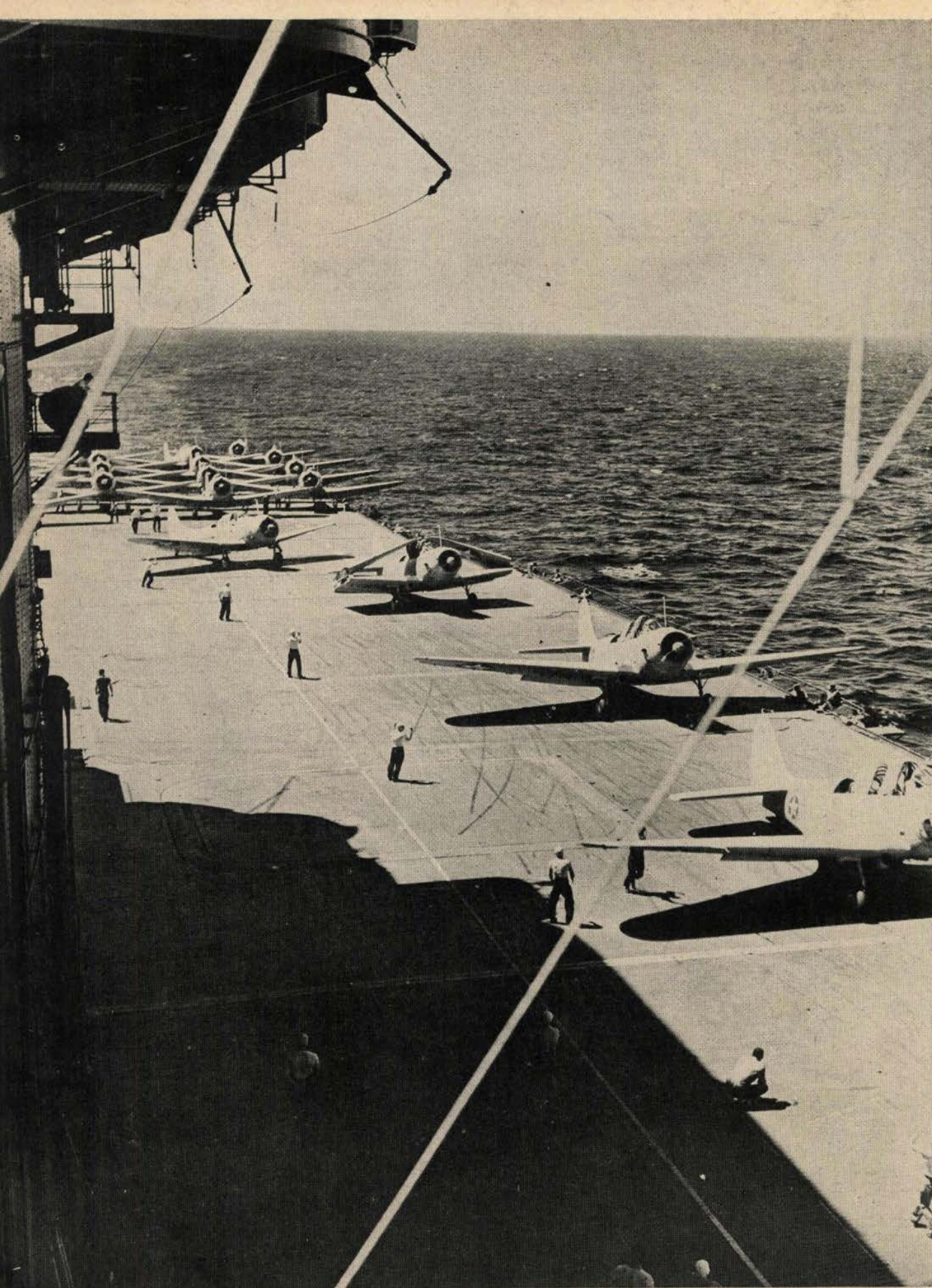
Curtiss-Wright Kittyhawk flying the colors of Great Britain's RAF is one of the latest of the P-40 models to come off the production line. Performance is a secret, but Kittyhawks have been proving mettle in Libyan Desert.

Among the most interesting aeronautic development of the war has been the conversion to military use of big commercial transport planes. First in this field was the Lockheed Hudson 14, commercially called the Lodestar. Originally turned over to the RAF as a long-range patrol and reconnaissance plane, it soon proved its all-round utility. The first American-made planes to see action in large numbers, they have been praised by pilots on all types of duty for their comfortable heated cabins, "auto-designed" instrument boards, ease in handling, reliable motor performance, and remarkable

ceiling 26,000 feet. After the success of the Hudsons, TWA followed suit by turning over its idle Clippers and Boeing Stratoliners for conversion to Army and Navy use. Designed for stratosphere cruising, these have great wing span (107 ft.), ceiling (24,000 ft.), range (2,340 miles), carrying capacity and speed (250 m.p.h.). they should prove mighty welcome additions to the long-range fleet.

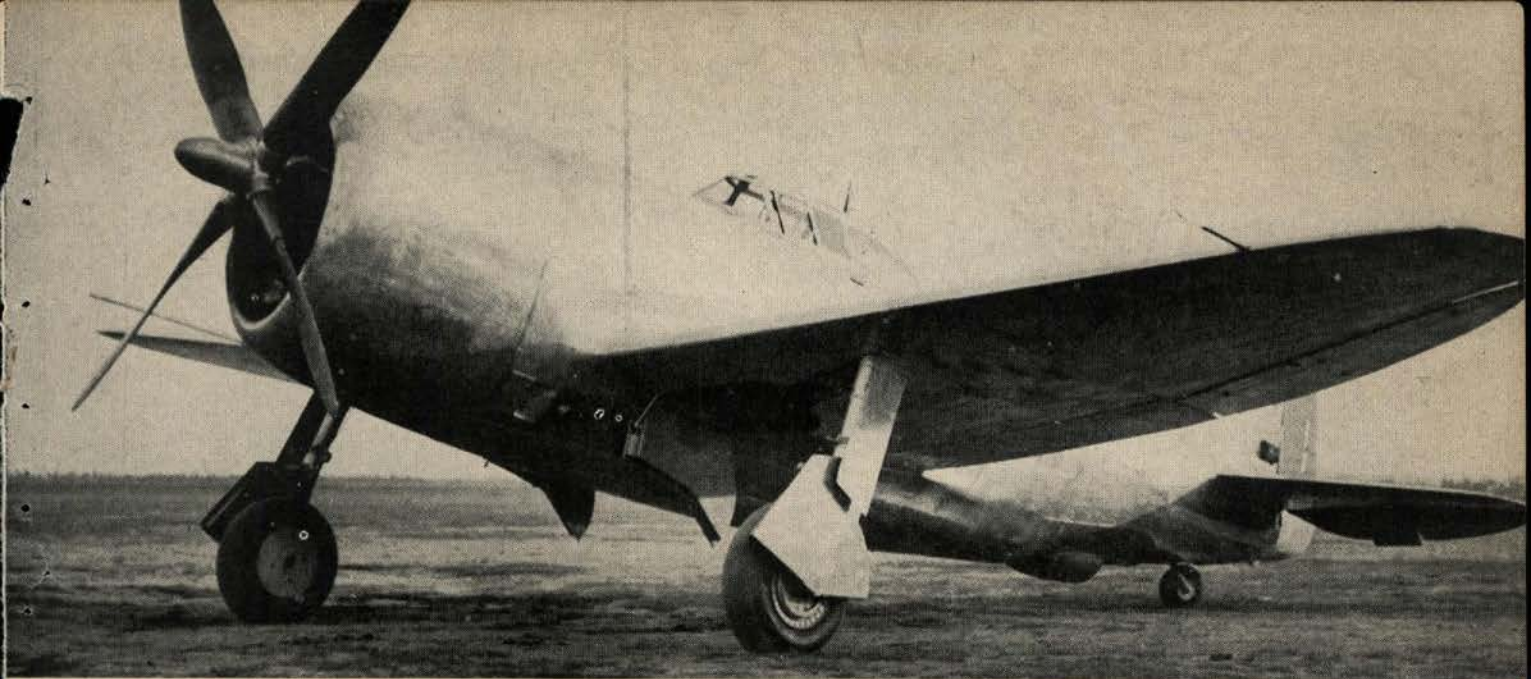
Other powers also use converted giant commercial liners. Germany has the Junkers Ju89 and Ju90, once holder of the world altitude record. The military version has four 1,100-h.p. Jumo in-line motors, wing





Torpedo bombers preparing to leave flight deck. Note wings beginning to unfold on third plane as bombers are waved forward by deck crew.





Republic Thunderbolt is the Army's new high-altitude fighter. Powered by a 2,000-h.p. air-cooled engine, the Thunderbolt, designated the P-47, is reported to have done well over 400 m.p.h.

span 114 ft., top speed 256 m.p.h., range 1,875 miles.

The 96 ft. Blohm & Voss 142 is almost as fast as the Junkers, covers a range of 2,730 miles. It was used to land troops in Norway and Crete.

Japan, having concentrated on war planes while European and American commercial interests expanded has no model directly comparable to these converted peace planes.

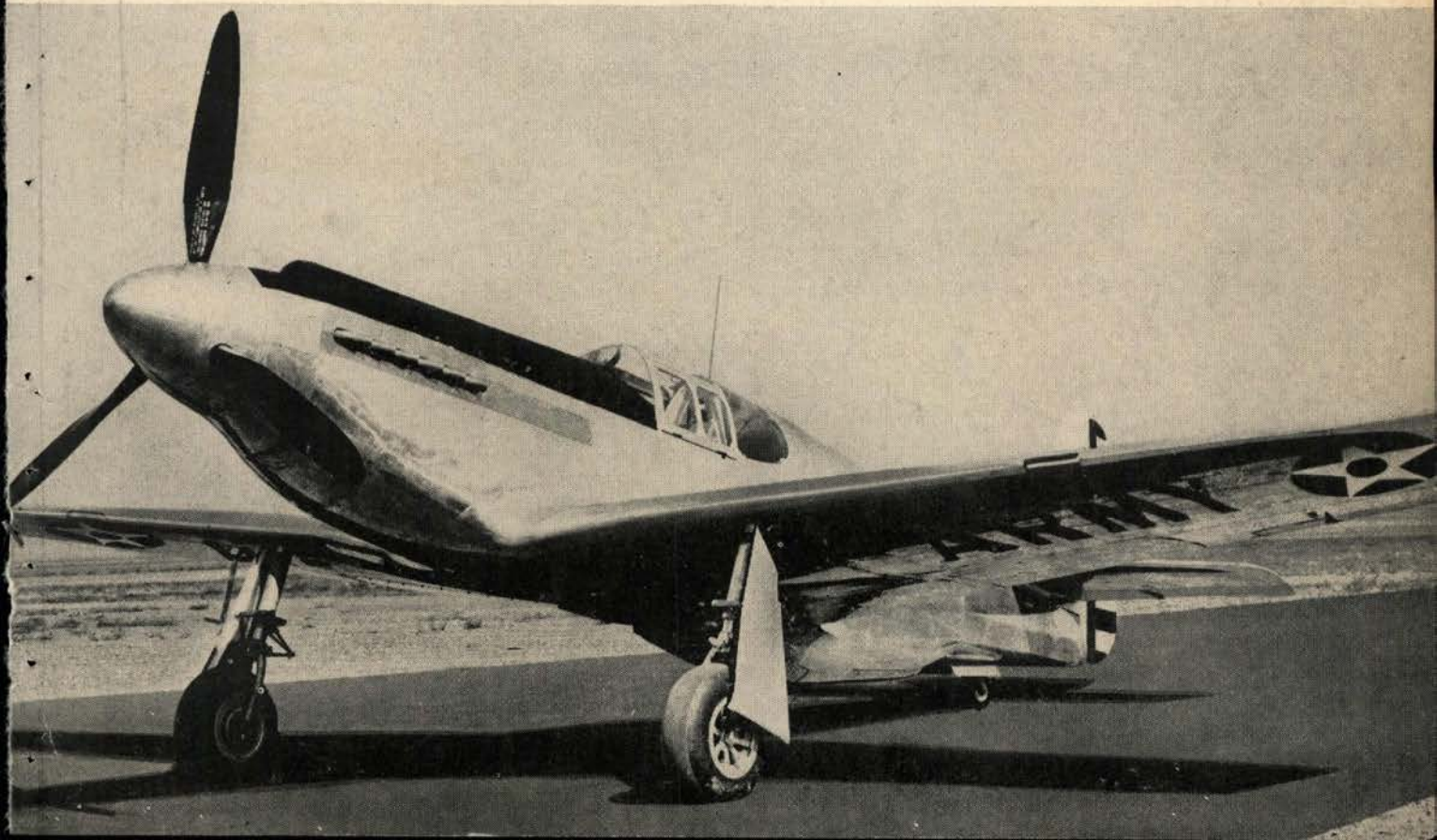
#### ON NAVAL AVIATION

On the seven seas, where the crucial test of air forces

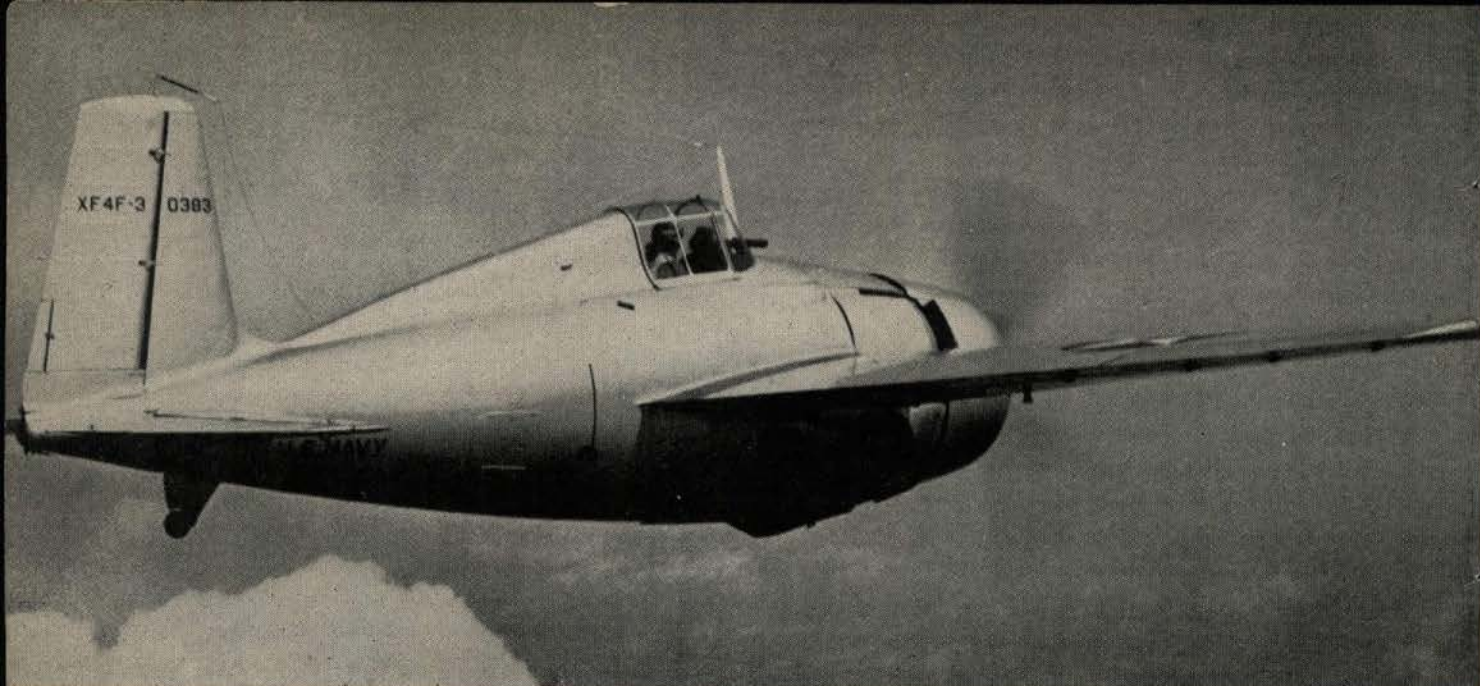
may arise, with battle and communication lines already stretching across thousands of miles of water, the U. S. Navy also appears to have the Axis highcarded. In this field high speed and altitude are not so vital, since on both offense and defense low level cruising is essential to spot ships and subs. Danger of attack by interceptors or antiaircraft is much smaller, from carrier-borne aircraft having less speed than land-based craft.

Old Faithful of the Atlantic Patrol is Consolidated's 104 ft. 2-engined Catalina, the Navy's PBY-5, with a

Strikingly similar in design to the famed German Messerschmidts, the North American Mustang has proven a favorite with the hard-fighting pilots of the R.A.F.







Grumman Wildcats in the hands of Marines at Wake Island fought off Japs until overwhelmed by numerical superiority. Has a 1,200-h.p. engine and a top speed of 350 m.p.h. Chunky fighter carries .50 cal. machine guns and fragmentation bombs.

range of 4,000 miles at 130 m.p.h., and service ceiling of 25,700 ft.

Developed along the same lines is the Navy's latest PB2Y2, 4-motored patrol bomber sometimes called the Coronado. This has heavily armored power turrets in

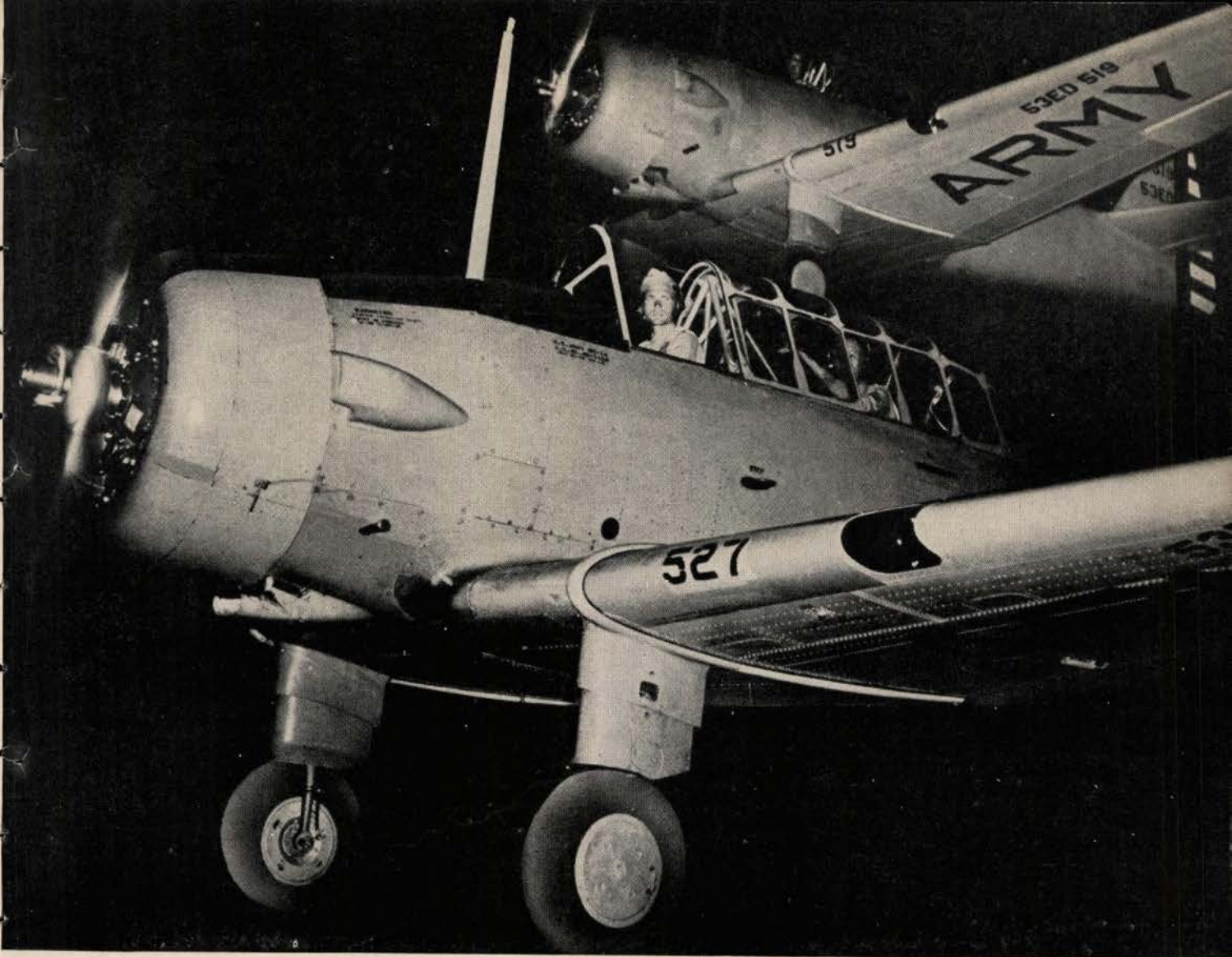
nose, tail, and sides, a range of 5,200 miles with 7 tons of bombs, and a top speed of 226 m.p.h.

Martin's PBM-1 has similar specifications, but of necessity, having only 2 engines, carries only half the bomb load. This model has gull wings, lifting the

The famed flying gun platform, or Bell Airacobra, has proven itself the finest middle-altitude fighter in the world. Armed with a 37 mm cannon, which can be seen protruding from the propeller hub, and numerous heavy caliber machine guns, the Airacobra is claimed to have hit speeds exceeding 400 m.p.h. Plane also affords downward view.







Cadets at the West Point of the Air, Randolph Field, Texas, form echelon during night formation flight training.

engine high, giving the propeller good clearance above the water. Martin's Mariner patrol-bomber is rolling out in increasing quantities.

Britain's seaplane patrol consists chiefly of Suther-

lands, built by the makers of the Stirling bomber, and Saunders-Roe Lerwicks. Both these planes are slower and heavier than the Catalina, more landbound than Coronado, Liberator, or Martin patrol bombers.

Lockheed lightning interceptor-pursuit planes, the P-38, called the fastest planes in the world. Can claw into the air at unbelievable rate to intercept raiding bombers. Equipped with turbo-superchargers for high-altitude fighting.





Greatest number of Nazi flying boats are made by Dornier, in great number of models for varying duties: troop transport, mail and supplies, reconnaissance and patrol. Latest and best seems to be the Do 26K, having four 600-h.p. Jumo motors, a 23mm cannon in nose turret, and machine gun blisters aft of the wings. This 98 ft. sea eagle has a maximum speed of 208 m.p.h. (much faster than Catalinas or Sutherlands), a range of 5,100 miles at 140 m.p.h. It is still no match for the giant Liberators or fast Marauders.

Other Nazi seaplanes include the Do 24, one of the few 3-motor planes aloft today, with a range of 2,000 miles at 161 m.p.h. The Do 18K1 is slower, has range of 3,220 miles.

Faced with the task of covering nearly 3 million square miles of the Pacific, Japan has gone in heavily for big Navy seaplanes and patrol bombers. She has 2 twin engine types, one with 850-h.p. Wright-Cyclone motors capable of doing 178 m.p.h.

Three-motor types are made by Kawanishi, developed from plans furnished by the British firm of Short Bros., makers of Sutherlands and Stirlings. The 90-2 has a 98 ft. wing span and a range of 1,560 miles.

Latest and greatest punch of the Japs' naval air arm is the Hiro 97: 134 ft. wing span, four 720-h.p. Hispano-Suiza motors, a top speed 200 m.p.h. This could outfly all but very latest U. S. sea ships.

The Japanese seem to have devised some means of rapid building and deploying of aircraft carriers which could release clouds of smaller bombers and fighters at many points almost simultaneously. This was the strategy of their attack on December 7.

The Axis thus has the planes to bomb either coast of the United States. The Germans are said to have 150 Heinkel 177's which could cross the Atlantic from French bases, drop 1,000 pounds of bombs each on New York or Washington, and return to Europe without stopping. British report spotting mile-long runways in Norway from which these giants may be launched against Russia, England, or the U. S. There are rumors of huge rocket-propelled bombers on German proving grounds.

#### COULD REFUEL IN MID-AIR

The Italian Savoia-Marchettis could also make the trip. In addition, the Nazis have the Dornier 26, a catapult plane released from armed merchantmen to harass Atlantic coastal defenses and shipping. Any of these or shorter range bombers could be used to cross the ocean between dawn and dusk, refueling in midair from flying tankers to increase the cruising range, and strike at Caribbean or U. S. continental bases before returning home.

That such bombing will occur is the opinion of most experts. But sustained raids such as those in London, Manila, or Singapore are not possible, unless Axis drawing boards and production units can perform an industrial miracle. Air raids on American cities will be

largely for sake of morale and propaganda value, rather than military achievement.

Far different is the situation in Singapore and the Netherlands East Indies. Dutch leaders, knowing that U. S. defenses, including Hawaii, are not subject to prolonged attack, complain bitterly of American "over-caution" in holding thousands of planes at home bases. Two thousand bombers, they say, would hold the South Pacific against anything Japan could show. Less than one-sixth of that number are now on hand.

Since Singapore was another fatal case in the epidemic of "too little and too late," America's air forces and production lines must put forth even greater effort to stamp out the "yellow lava" erupting in the Pacific. And the effort must be made now, while American-designed planes pack the world's strongest punch, while American industry can roll out its mightiest air armada.

Rolling off production lines at a faster rate than the much larger and more complex bombers, American fighter planes are now making their mark on the world's major battlefronts.

Over Far Eastern jungles they are proving more than a match for Japanese bombers and pursuits; over African desert, Russian steppes and the English Channel they have met and stood up to Germany's best.

At the start of the present conflict, America led the world in the quality of its bombers, but lagged far behind in the quality of pursuit and interceptor planes. Behind the surge to the fore is a tale of despair, bottle-necks, overtime, hard work, and American ingenuity. Our highest speed pursuits were laggards compared to the hurtling English Spitfires and German Messerschmidts; while our pea-shooter variety armament was woeful compared to the British Hawker Hurricanes, capable of chopping an adversary to bits in a matter of seconds.

But out of the handicap of their lack of information on battlefront planes, American craftsmen have put forth, in the short space of a year, pursuits that have chewed their way through all types of opposition.

The feared 'Schmidts of the crack Luftwaffe have been shattered by sturdy Curtiss Tomahawk and Kittyhawk fighters of the British Libyan command while barrel-hands of the tough, skillful Dutch have been wreaking havoc among the planes of the Rising Sun.

In far off China and Burma American volunteers of the Flying Tigers' unit have completely battered down attacks on the vital Burma Road in old Curtiss P-40 fighter planes.

The Curtiss ships of the P-40 class and the Buffaloes have been the first of the American fighters to match snap-rolls with the enemy, but more modern engines of destruction are straining to enter the fray.

A small force of P-40's has been a mainstay for General Douglas MacArthur's beleaguered army in the Philippines; has knocked down 38 Japanese planes in the first seven weeks of the war, operating nearly always





Latest of the famous Curtiss-Wright pursuit line is the P-40F or Goshawk. Note unobstructed view pilot has forward.

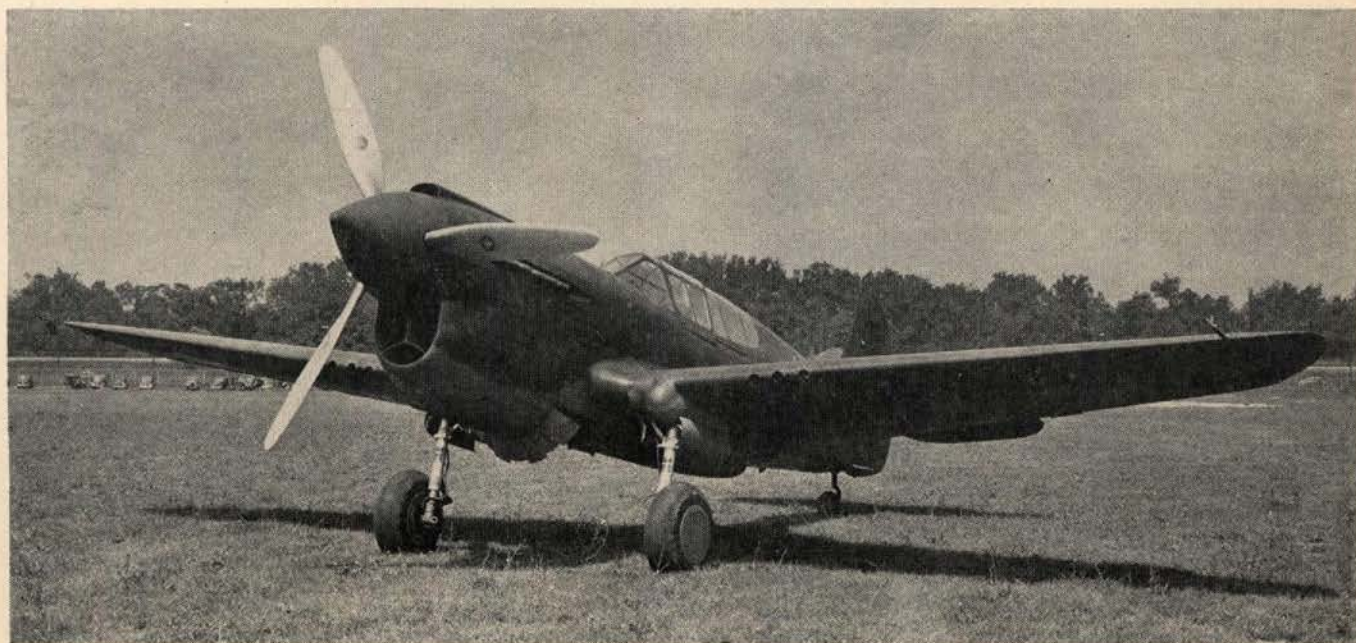
against far superior forces. The P-40's on the fighting fronts have heavy machine guns, armor-plated cockpits, self-sealing fuel tanks. Powered with a stepped-up Allison liquid-cooled engine, these planes and their engines have stood the gaff of war operations under the worst flying conditions.

The P-39, the famous Bell Airacobra, nicknamed the Caribou by the British, is described by ranking United States officers as the finest middle-altitude fighter in the world. It is reputed to have downed highly rated Spitfires in mock combat in Britain. The Airacobra carries more than three-fourths of a ton of guns and ammunition. The 37mm cannon mounted in the

nose can knock out the world's largest bombers, is a potent weapon against tanks.

Today's P-39's illustrate how improvements are made between the first few production models—frequently mistaken by critics as the end product—and the final model on which large-scale output is frozen. The original Airacobra came out in 1939. It was pared down in outline to cut 50 per cent off the "drag" and increase speed by 50 miles per hour. Four guns, 500 pounds of armor plate were added.

Probably the most hush-hush "job" on all the world's production lines is the Republic Thunderbolt, designated the P-47. This ultra-secret crate of dynamite is



Goshawk is latest fighter modification of all Curtiss-Wright P-40 series. Highly maneuverable, and heavily armed, entire P-40 series have proved exceptionally rugged in combat.



the army's newest, fastest fighter-interceptor. A tremendous package of power, the Thunderbolt boasts the world's most powerful engine on a pursuit ship—a 2,000 horsepower Pratt and Whitney radial air-cooled. Believed able to outfly and out-fight any other known ship, the P-47 carries enough guns to generate at top firing speed an impact equal to the force of a five-ton truck hitting a brick wall at 60 miles an hour.

The Thunderbolt is built to take rough treatment. Long and big-nosed, it weighs 13,500 pounds, measures 41 feet at the wing tips. It has done 680 miles an hour in a power-dive test, and has stood up under the strain of the pullout without a whimper.

Standing the burden of interceptor work until the Thunderbolt reaches the battlefield is the Lockheed P-38, christened the Lightning by our British allies. The Lightning is said to be the fastest military airplane in the world. Powered with two liquid-cooled engines, the Lockheed has clawed into English skies at unbelievable rates.

Confusing to the British upon its arrival because of its silhouette similarity to the famed Messerschmidts, the North American Mustang fighter has proved a highly maneuverable ship and extremely delicate to handle. It is another liquid-cooled engine-pursuit with the standard amount of firepower.

The P-66, or Vultee Vanguard, has proven a tough all-round fighter in the Far East where its top speed is superior to any of the Jap's known types.

Offensive planes for the Navy must be specially built for ship-board use. The United States Navy is generally considered to have the best-developed shipboard fighters of any in the world. None of the action in which our fleet has engaged in so far has tended to change this viewpoint.

Present outstanding Navy fighting plane is the fast Grumman high-altitude fighter. Named the Wildcat, it proved itself on the heroic stand of the Marines at Wake Island. Four Wildcats returned to the air again and again in the face of over-whelming odds, downed Japanese opponents and even carried bombs enough to sink Japanese warships. The British have used the Grumman, called by them the Martlet, all over the world.

Used by the Navy as a shipboard fighter, the F-2-A has achieved its greatest fame in the land version, the Buffalo. It was used to defend Singapore; has been used offensively in large quantities by the Dutch East Indies Air Force. Armed with .50 caliber machine guns, bullet-proof windshields, armor-plated cockpit and self-sealing gas tanks, the Buffalo is termed "unbeatable for close-quarter combat" by veteran English pilots in the Far East.

The Vought-Sikorsky F-4-U is the overwater fighting sister ship of the Army's Thunderbolt. It is the Navy's hardest-hitting, most powerful high-altitude interceptor. Designed especially for carrier operation, its top speed is more than 400 miles per hour. It is powered with a

2,000 horsepower air-cooled engine, is thirty feet long and has a wing span of 40 feet.

Up to December 7, the Army and Navy were dependent on reports from observers for judgment of their fighting planes. Now those planes are being fought by Americans. Their record so far indicates that this country can match and better the best the enemy has to offer.

The modern warplane is virtually a "flying gun platform" with cannon, machine guns, and armor.

In regards to superior equipment, the urgent demand for more firepower has been most frequently brought to the public attention. Firepower means as much to the tactical airplane as the size and the number of guns means to a battleship; and, in combat, can be more important than speed and performance. Actually, this word "firepower" may be applied to briefly describe an airplane's tactical qualifications.

Increased firepower is a direct outgrowth of the recent increases in speed, caused by the necessities of war—the faster the target, the more shots per second required.

In actual firepower, the machine guns form the mainstay around which supporting units are installed—those being bombs and cannon. The average machine-gun is capable of firing from 600 to 1,200 of ammunition per minute, depending upon the strength of the drive spring, caliber, ammunition, temperature, synchronizing system if used, and the design and location of accessory equipment, i.e., feed and ejection chutes, ammunition boxes, etc. However, rate of fire must not be misconstrued, as machine guns are rarely fired for a full minute.

The advent of aircraft cannon is not new. As is commonly known, their use was tried during World War I, both as flexible mounted and stationary. In present aerial strategy the rapid-firing cannon is receiving wide acceptance, having rates of fire comparable to machine guns.

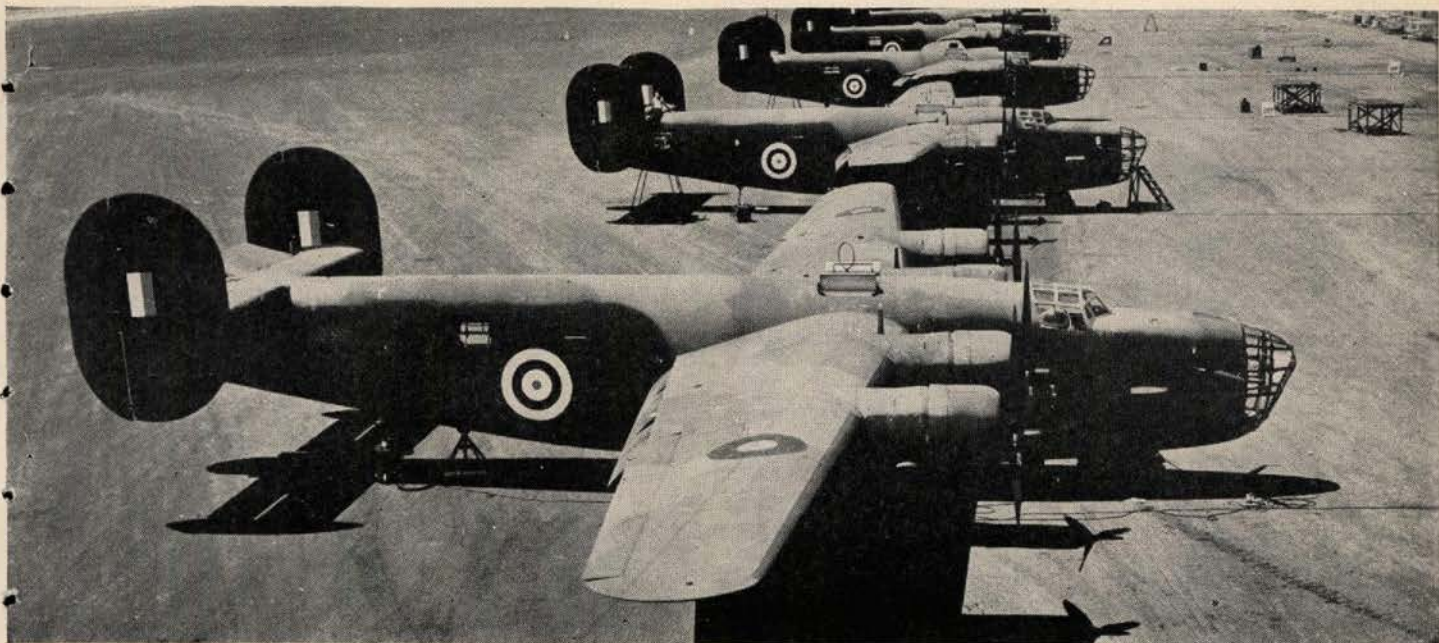
The aircraft cannon enables the airplane to cope lightly-armored tanks, and as larger calibered aircraft cannon are developed, "panzer" divisions will require heavier armor, consequently decreasing their speed and mobility. When used against hostile aircraft the cannon is far more destructive than the faster-firing machine-gun, as its explosive shells prove effective against self-sealing gas tanks.

#### CANNON GIVES EDGE TO FIGHTERS

At present the cannon gives the advantage of range to the pursuit and fighter type airplane, but a flexible mounted gun, now being installed on heavy bombers, will probably neutralize this temporary advantage.

The manufacture and use of protective armor is an industry in itself, with a history dating back to ancient Greece. In aircraft, armor plating was successfully used in the all-metal Junker planes during World War I and, after being slighted for about two decades, has now become of prime importance.





Consolidated Liberator four-engined bombers ready for flight to England. These huge craft carry a crew of nine and a load of four tons of bombs. Can cruise 3,000 miles at top speed of more than 300 m.p.h.

In general there are two types of armor plating, one consisting of two or more fused plates of different hardness; the other consisting of a single face-hardened plate. In all cases the harder surface is the one receiving the initial impact.

Given these superb American productions, Yankee flyers will quickly clear the skies for the unending streams of troops, transports and supplies so vitally needed now in the battle areas. Every 24 hours our air strength is growing. The Japs have found that even the Filipinos can fly. They are learning that the Dutch don't argue, and that Dutch flyers are more than a match for any Japanese. In the few details received by American air action in the Far East, it is evident that our men have displayed a superiority in handling their equipment and in outflying the enemy, although the Japs have had a vastly greater number of planes in the air.

Verification of Flying Fortress success stories in the Pacific is given in this eye-witness account of a bombing foray off Davao:

Feb. 12.—I saw the fleet of eight American Flying Fortresses take off from a jungle airport near Samarinda, on the east coast of Borneo, for their January 4 raid on Japanese warships in Davao Bay. Until today I was not permitted to tell the story of the raid in which a battleship or battle cruiser was hit, a destroyer was sunk and several other warships and troop transports were damaged.

I saw all the Flying Fortresses return without damage or casualties. They took the Japanese completely by surprise. Antiaircraft fire did not begin until the last two American planes were over the target and none of the five Japanese fighters which got into the air was within 10,000 feet of the attacking planes.

#### FOUR 720-POUND BOMBS

The model 17-D Fortresses arrived at the jungle airport at noon on January 3. Each of them took on 1,000 gallons of gasoline and four 720-pound bombs. Neither mechanical fuel pumps nor bomb trolleys were available at the field and the task of loading the bombers lasted until late at night and was finished under the light of torches.

The American crews of the bombers were remnants of a group of many airmen whose aircraft had been destroyed on the ground early in the war. They became a potent flying circus, covering prodigious distances from constantly changing bases. Their specialty was surprise raiding.

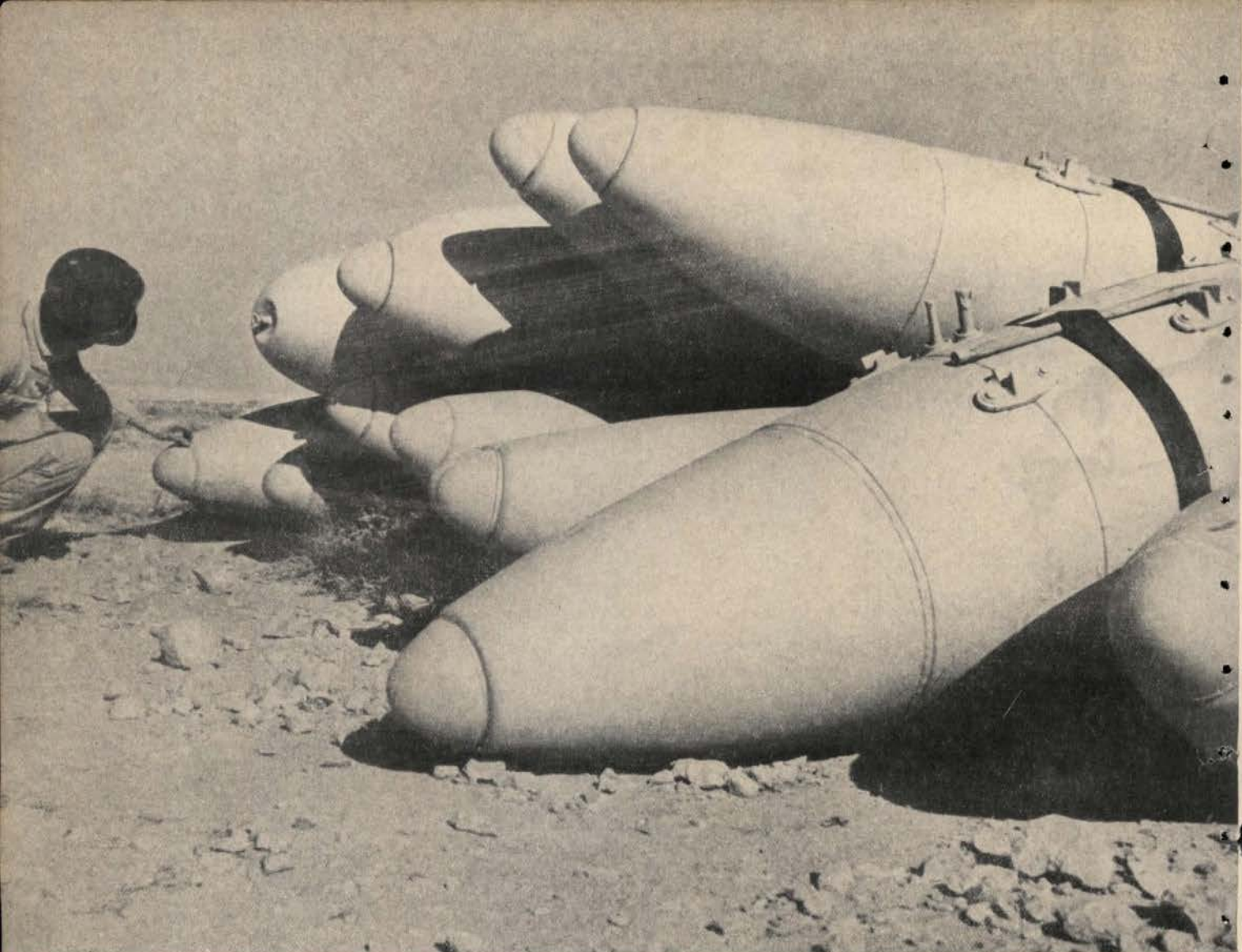
The jungle quivered as the fortresses took off in the fading moonlight. Each was manned by three officers and five men. The first of the fortresses returned nine and one-half hours later. The grimy, grinning, hungry crews scrambled out. They reported that at least 40 ships, including about 10 submarines and many transports were in Davao Bay. They decided to concentrate on the warships.

Some of the crews did not see their bombs strike because from a height of 25,000 feet a bomb takes 40 seconds to reach sea level. But fortresses following in the rear of the squadron reported a bomb hit on the stern and another near the funnel of the largest ship which men hove to. Another crew reported the sinking of the destroyer.

The five Jap fighters which got into the air apparently were catapulted from warships, but the fortresses were able to climb above the fighters' range.

The day after the raid the bombers moved on to





*Photo by British Press Service*

### BIG FELLOWS — BUT NOT BOMBS

In the Middle East—Auxiliary petrol tanks used by Nazi aircraft, which were abandoned together with vast quantities of material captured at a Libyan landing ground.

another field for another attack to keep the Japanese guessing.

That the supply of heavy bombers is a matter of life or death to the United cause in the Pacific is plainly revealed in the desperate SOS delivered in Washington last month by the Indies Lieutenant Governor van Mook. First on his list of emergency priorities was planes: Flying Fortresses, Liberators, Marauders. 800 of these delivered at once, 200 to each of the four crucial points of Rangoon, Java, Sumatra, and Darwin, could shatter Jap convoys, as Makassar proved, hold back the yellow tide until the United Nations were strong enough to launch an offensive of their own. To protect the vulnerable Achilles heel of these giants, their take-off and landing points, a thousand fighter planes are needed to hold a minimum number of vital airdromes and clear the skies of Jap interceptors.

Next in importance are antiaircraft regiments, one for each vital sector. The Pacific front could use all the antiaircraft guns the U. S. could produce, man, and ship for months to come.

Third on Dr. van Mook's list is naval craft: destroyers, light cruisers, submarines. Had these been available, the half-pint naval escort of the Japs would never have got troops to Amboina, most serious Dutch loss so far.

Of course the job would not be finished by one delivery even of this size. The Navy would have to keep convoying replacements, until Jap inability to keep pace with American production and supply units would leave her hopelessly outclassed, force her to fall back on bases inadequately weaponed, give her a lasting dose of the bitter pill of defeat which the Allies are now having to swallow.





# SUPER-TANKS\*

## Developments Leading to the New Heavy Weapon

By Brigadier General G. M. Barnes\*\*

EVERY day of battle in the current world war adds emphasis to the fundamental importance of tanks in modern warfare. The two *prima donna* weapons of the present European war have been the airplane and the tank; however, neither of these weapons has proved to be completely effective without the assistance of the other. The Germans in Poland, France, and elsewhere have won quick and decisive battles when these two weapons have been used in mutual support of each other. On the other hand, where the airplane has been forced to act alone, as in the battle for England, the results have not been decisive.

Under the *Blitzkrieg* method of employing airplanes and tanks, the former are first used to soften the enemy; then tanks follow up the advantage with mass attacks concentrated for a breakthrough. Being highly mobile, the tanks can attack the weakest part of a long defensive line. It is very difficult for an army on the defensive to stop a massed attack of tanks with antitank guns spread out to defend a long line. Pill boxes and other defensive strong points with antitank guns capable of penetrating a tank's armor usually are carefully avoided by tanks in such an attack. It is probably true that the best defense against a determined tank attack is an equally determined offensive with an equivalent or larger number of opposing tanks.

The layman, in endeavoring to make a comparison between foreign and American tanks, is often confused by the rather loose classification of tanks into light, medium, and heavy types. Under the classification of light tanks, European countries often include vehicles weighing from five to six tons as compared with the American standard light tank of fourteen tons which would be classified as a medium tank in some foreign countries. It is also well to remember that a large percentage of foreign tanks are now of obsolescent models while the tanks with which our armies are now being equipped are of the very latest patterns.

The design of a tank, like that of any other piece of machinery, is a question of making satisfactory compromises between the various conflicting characteristics of the vehicle and is necessarily based upon military requirements. The military characteristics which must be considered are: armament, armor protection, mobility

(including trench-crossing ability, maneuverability, speed, and radius of action), weight, number of men in crew, and speed of production. All these basic characteristics, of course, are interdependent, one upon the other.

The problem of the military tank designer is to balance these conflicting characteristics. As the designer does not know the tactical situation under which the tank is to be employed, he strives to make a type of vehicle which will most nearly fit the probable situations which may be encountered in warfare.

The purpose of any tank is to carry safely the guns, ammunition, and personnel necessary for their operation to the desired point in the minimum of time in order that these weapons may be brought to bear effectively and decisively upon the enemy. Tanks must have armament capable of performing the following general missions: (1) The penetration of armor plate, which is best accomplished by high-velocity, low-trajectory weapons involving the use of high-quality armor-piercing ammunition; (2) High-explosive demolition, which is most effectively accomplished by a low-velocity thin-walled projectile; (3) Operation against personnel targets, which are most effectively overcome by small-caliber machine-gun fire; (4) Antiaircraft fire, which involves precision firing against the high-speed airplane moving in three dimensions through space.

The desire of the tank designer to equip his tank with a large number of high-power weapons is quickly restricted by the number of men in the crew, the space available for guns and ammunition, and by the limitations of weight. To provide space to serve effectively the several types of weapons required may result in a vehicle which has a large silhouette and which is too heavy if the desired armor protection is maintained.

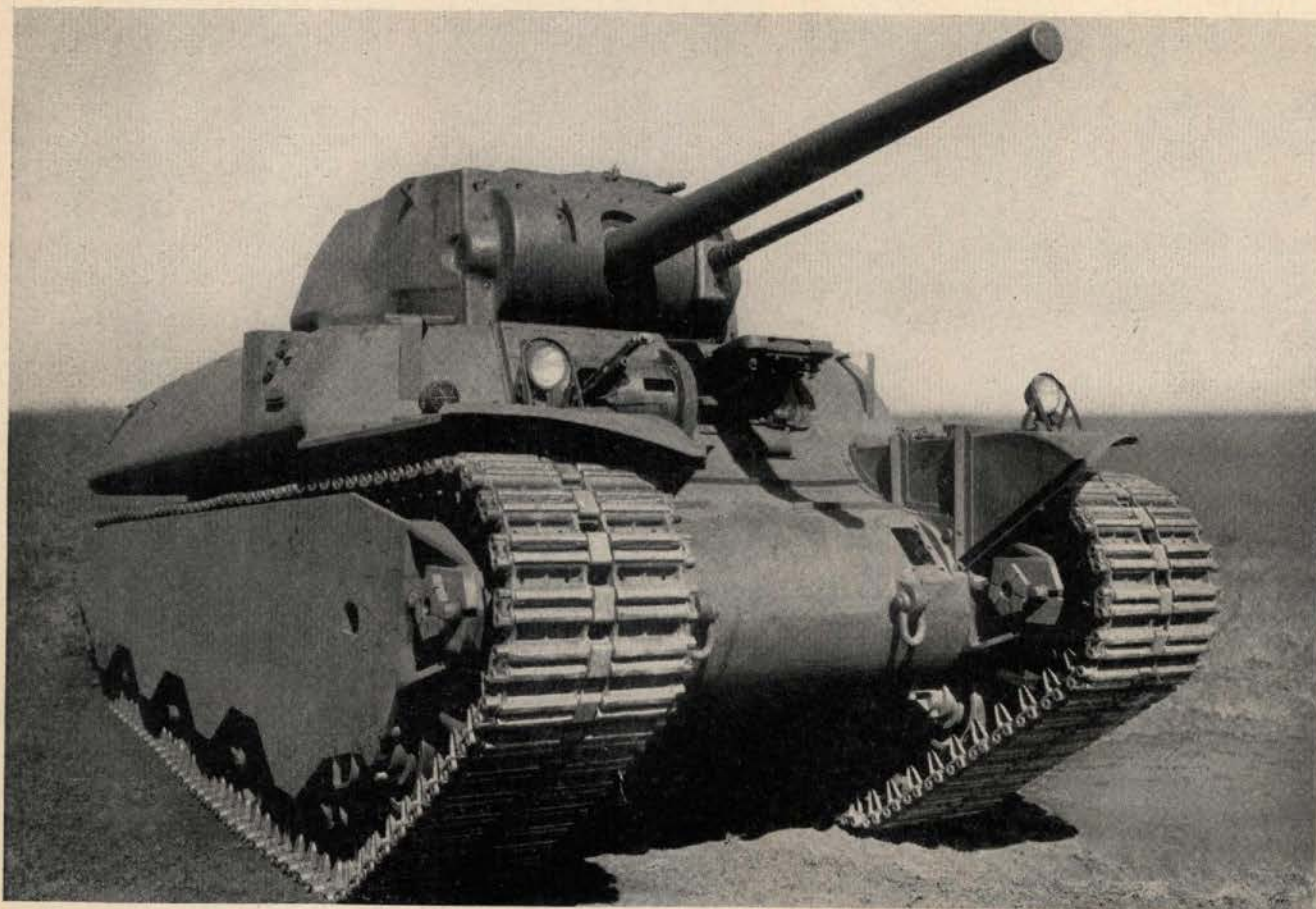
While this subject of armament is confidential as to detail, I am very happy to report that during the last year such rapid progress has been made toward solution of these problems that improvements in the accuracy of fire of our tank weapons of over 1,000 per cent has been possible.

The armor carried by the tank makes it possible for the vehicle to live on the battlefield. Naturally, the designer would like to equip his tank with armor of such thickness that it would be impossible for any type of projectile to penetrate it. It is always a great disappointment to the layman to learn that the armor of any tank can be penetrated, and perhaps this was one of

\*Courtesy, *Army Ordnance Magazine*.

\*\*Assistant Chief, Industrial Service, Engineering, Office of the Chief of Ordnance, Brigadier General, U. S. Army.





The new ordnance heavy tank has superior fire power and excellent mobility.

the factors which held back the universal acceptance of tanks for many years. It was always easy to reason that the tank was a very vulnerable vehicle and that its armor could be penetrated readily.

In these arguments against the tank as a fighting vehicle, the principle of employment *en masse* was too often overlooked. Armor provides protection and cover for the working mechanisms and personnel. It is of interest to note that, according to World War records, sixty per cent of battle casualties resulted from low-velocity fragments thrown from projectiles. It is, therefore, obvious that even thin armor provides a great degree of protection. Armor, unfortunately, is the greatest weight-producing factor in a tank and offers the greatest problems in machining and fabrication.

It is the present practice of the United States Army to use rolled face-hardened armor plate. This type of plate gives the greatest protection from small-caliber bullets up to caliber .50. However, it is not well suited to withstand the shock of larger-caliber projectiles. For lightly armored vehicles it is necessary to use face-hardened plate because this is the only type of thin plate which will keep out the bullets from high-powered machine guns.

Rolled homogeneous plate offers the best ballistic values against projectiles larger than machine-gun bullets. It furnishes protection against small-arms bullets which cannot penetrate so great a thickness and is also

a superior type of plate for absorbing the shocks of heavier-caliber cannon projectiles. It can be welded and formed.

The use of cast armor in the United States is increasing. Up to the present time, cast armor has been made to give about ninety per cent of the ballistic value of rolled homogeneous plate. Cast armor has an important design advantage in that it can be contoured and sloped to any desired shape and thus achieve some advantage in ballistic values.

Tank plates may be riveted or welded together. While we completely welded a tank as early as 1933, and while we have made armor-plate castings at Watertown Arsenal over a long period of years, welding and casting have entered the field of design extensively only during the last year. The urge to weld or cast comes largely from the desire to eliminate riveted structures which are somewhat weak ballistically. The rapid development in welding armor during the past year insures that welding will be extensively used in tank manufacture in the future.

In regard to armor, it may be said that the trend of modern design is toward the use of thicker plates. Here the tank designer is confronted with a very difficult problem because, as the armor thickness is increased, the weight of the vehicle is increased, requiring greater horsepower—until the law of diminishing returns in tank design is encountered.



Mobility is likewise one of the fundamental tank characteristics in that it determines the facility with which the guns of a tank can be brought to the point of desired employment. The mobility naturally depends upon the weight of the vehicle, the power of the engine employed, the width of track, the length of the vehicle, and the corresponding pounds-per-square-inch pressure between the track and the ground. By "mobility" we mean not only speed but also maneuverability under different conditions of speed and terrain. Mobility is of vital importance because it affords additional protection to the crew.

The safety of the tank personnel is dependent not only on the thickness and quality of the tank armor, but also upon the tank speed and the type of terrain over which employed. Thus, if a tank can move at a high rate of speed, it will present itself as a target to the enemy for a limited time. The length of time will determine the number of shots the enemy tank gunners can fire which will determine the number of hits which can be made. Since any armored vehicle is capable of absorbing a certain number of penetrations before it is put out of action, this time factor is of great importance. The desire of the tank designer, therefore, is always to secure the greatest possible speed over all types of terrain.

Foreign tank designers have not given speed as high a value as we have. This probably has been due to the fact that only engines of relatively lower horsepower have been available. Regardless of the reason, it is a fact that most European tanks, including German, have about one-half the horsepower-to-weight ratio of the corresponding American vehicles. For this reason, it may be expected that American tanks will travel much faster than foreign vehicles and will be more difficult to put out of action.

The power train and the running gear give the tank mobility. The units must be light because the payload on this vehicle is crew, armor, guns, and ammunition. They must be readily accessible for quick adjustment, repair, or replacement, as these units have the greatest effect on mechanical reliability.

Prior to August, 1940, the Ordnance Department had not undertaken the design and manufacture of a heavy tank due to lack of funds; such a project would have consumed too large a proportion of the research moneys then available. In August, 1940, however, the Ordnance Department received its large appropriation from the Congress and was therefore able to afford the luxury of designing and manufacturing supertanks. It was in a position to undertake such a design since a large percentage of the tank components which had been under

intensive development during the past twenty years by the Ordnance Department could be utilized in the construction of a large supertank by strengthening and enlarging these components as required for use with a large and heavy vehicle.

A number of difficult engineering problems have arisen in connection with the design of this tank. One such problem has been the development of a suitable transmission which would be able to handle the powerful engine used in the vehicle. To this end, the engineering talent of the automotive industry was called into consultation and was asked to cooperate with us. As a result, three different types of transmissions were designed and placed under manufacture. The transmission found by test to be best suited for the strenuous and exacting requirements of the heavy tank will be selected for production.

While there are heavy and supertanks in existence in Europe, there is no vehicle known to exist which would approach the American 60-ton supertank in regard to power of weapons carried and horsepower of engine used to drive it at high speeds across country. The Ordnance Department has maintained in this vehicle the same high horsepower-weight ratio employed in the designs of its light and medium tanks so that the cross-country mobility of the vehicle should in every way duplicate that of the smaller vehicles developed previously.

The two major disadvantages of a super tank are its high cost and its heavy weight with the accompanying difficulty of crossing rivers on temporary bridges. The advantages accruing to the heavy tank are its superior gun power, its heavier armor which makes it invulnerable to all but the most powerful antitank guns, and its great crushing power. In some of the important tank battles of the present war, the Germans have used supertanks mainly from the Skoda arsenal at Czechoslovakia as a spearhead of the attack.

The trend of development in tanks at the present time is continuously toward the use of more heavily armored vehicles. As previously stated, there is a distinct limit to the armor plate which can be applied to a given design of tank chassis. It becomes necessary, therefore, if the armor is to be increased materially, to design new vehicles with sufficient horsepower which have all parts proportioned to carry the heavy loads imposed by the thicker armor plate. The supertank which has just been completed by the Ordnance Department is a forerunner of a new line of heavily armored tanks and represents, it is believed, the most powerful tank which has been built in the world up to this time.

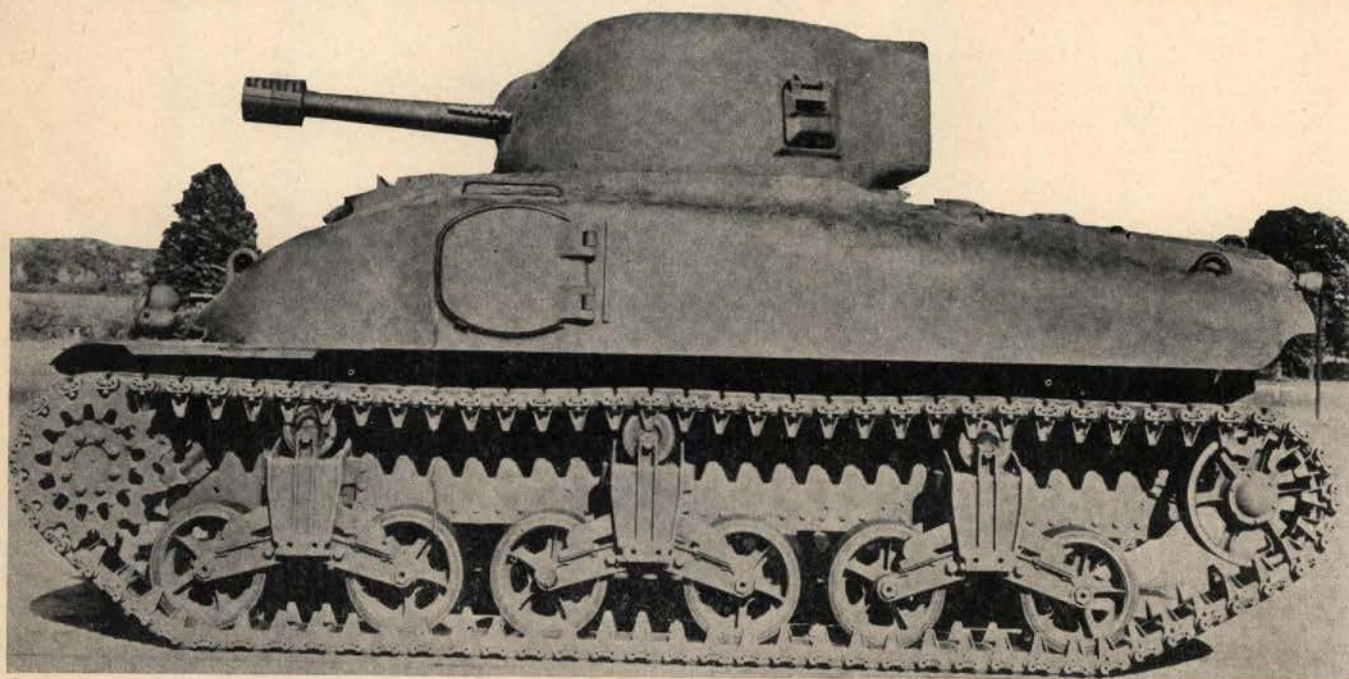


**"... better a faulty plan which shows boldness and decision than a perfect plan enmeshed in uncertainty."—*Truppenführung*.**



# New Medium Tank M-4

CARDED



Completely streamlined and armed with a 75-mm. cannon and a battery of machine guns.



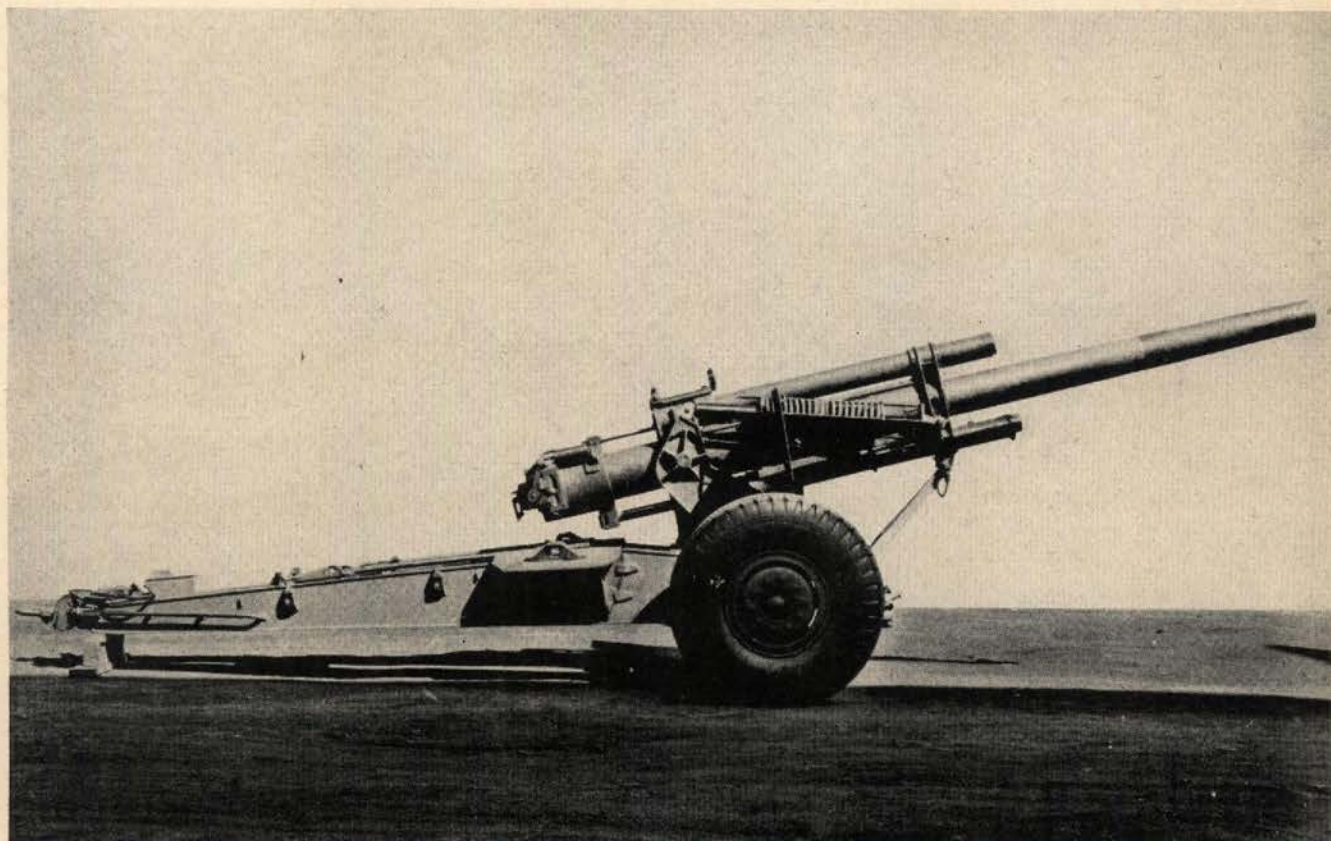
CHIEF-1

# New Field Weapons



Two new field artillery weapons recently have been standardized. The improved 155-mm. howitzer, shown above in travel position, will eventually replace the French-type Schneider 155-mm. howitzer now in use. The 4.5-inch gun, shown below in travel position, is suitable for corps artillery and antitank missions. The same type carriage is used for gun and howitzer.

Courtesy, *Army Ordnance Magazine*.





CARDED

# New Mobile Weapons



One of the Army's latest mechanized weapons, the "swamp buggy," above, mounting a 37-mm. gun has proved itself an effective antitank unit; its oversize tires enable it to navigate marshy terrain. Another new weapon is the 240-mm. howitzer which breaks into two loads for fast transport. The barrel is shown below being towed at high speed.

*Courtesy, Army Ordnance Magazine.*







# Super-Machine Guns<sup>★</sup>

By J. B. Nealey<sup>★★</sup>

THE fact that new weapons are continually being devised necessitates the development of counter weapons if they are to be effectively resisted and overcome. Down through history this ever-recurring cycle is the warp and woof of the pattern of warfare. One of the latest figures in the pattern, woven since World War I, is made up of military planes and antiaircraft guns. All-important among these latter are light, fast-firing guns that fill the gap between the machine gun and the 75-mm. gun, typified by the famous 37- and 40-mm. guns—in reality super machine guns.

These two guns, which are so close together in caliber and mission, are entirely different in mechanical details, and were developed entirely independently of each other. As soon as the need for antiaircraft guns was indicated by the introduction of airplane warfare, the Ordnance Department of the United States Army started designing, building and testing. Using the Browning machine gun mechanism as a basis, the 37-mm. gun was finally created and adopted. The 40-mm. gun had its inception in Europe and was developed in Sweden, and later was adopted by Great Britain and many European powers. While the relative merits

of the two guns are controversial, each has a distinct field of use.

In America the versatility of the 37-mm. gun soon demonstrated itself. Four types of mount were developed and four different missions were assigned to it. In addition to antiaircraft, it is used for aircraft, antitank and tank functions. Actually it is four different guns with the same bore. The 40-mm. gun has only one mission—antiaircraft, although in an emergency the muzzle can be lowered for antitank use.

With a sliding wedge or drop block type of breech-block, actuated by a trip on the recoil mechanism, the 37-mm. gun has been made fully automatic. A slight change only is necessary to convert it into a semi-automatic gun. As an automatic machine gun, its rate of fire is 120 to 140 rounds per minute. Ammunition is fed in 10-round clips and as high as 40 rounds can be fired continuously before cooling with water circulated through the bore.

## MONOBLOC GUN TUBE

The gun tube is of the monobloc type, that is, cast in a single piece with neither hoops nor jackets. Centrifugal casting, a method by which small and medium caliber cannon are cast, together with cold working and stronger alloy steels, are United States Ordnance developments of a most revolutionary character. Through these three developments alone the United States today leads the world, not only in the science of gun making but in the mass production methods of gun manufacture. In addition to increased strength due to better



★—Courtesy, *American Rifleman*.

★★Advisory Specialist, Ordnance Department, U. S. A.

Firing from clips of ten shells each, this 37-mm. antiaircraft gun can send a stream of projectiles aloft at a rate of 120 per minute. It is used against planes or tanks.



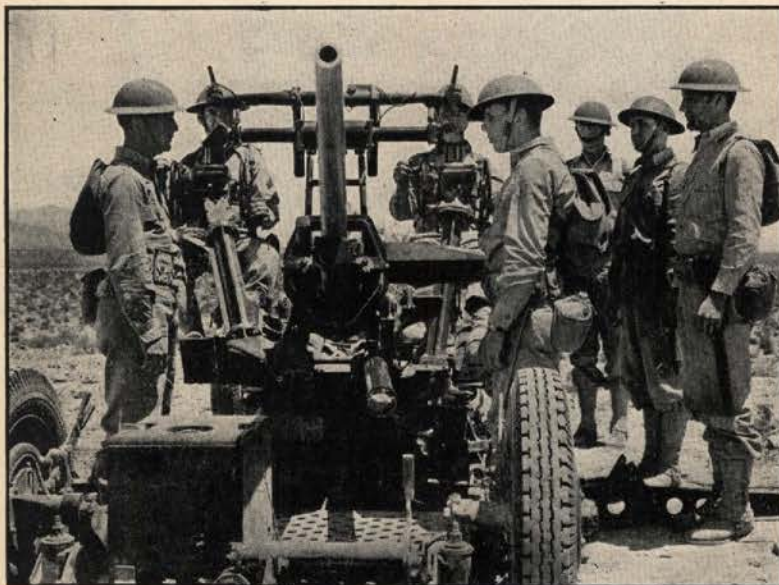
steel alloys and centrifugal casting, cold working so raises the elastic limit of the steel in the gun tube as to almost double its strength.

All this obsoletes the time-honored built-up section of separately forged jackets and hoops shrunk onto the gun tubes, and obsoletes the replaceable liner with its rifling grooves. In its place is this new, light, one-piece tube—the monobloc gun with the rifling cut directly into it. Replacing barrels is faster than relining old ones; therefore, the 37-mm. gun is lighter, stronger, has a higher rate of fire, greater mobility, and will hurl a

so many seconds flight and after it has passed its effective range. This prevents it from exerting its destructive force on friendly troops or civilians when it drops to earth.

### 37-MM. ANTI-AIRCRAFT CARRIAGE

The Ordnance Department also developed an entirely new carriage which gives this anti-aircraft all-round traverse and a high angle of elevation. Equilibrators were added to counterweight the throwing of the center of gravity forward to permit of high elevation. The



*Left:* Another view of the Army's fast-firing 37-mm. anti-aircraft gun. Towed by truck, it can be moved into position and operated with minimum time loss.

*Below:* One of the first of the new Bofors to come off assembly lines. This 40-mm. gun, developed first in Sweden, is now standard in British, United States armies.

heavier projectile to greater distances than any other gun of its caliber.

The tube is screwed into the breech-ring which contains a recess for the operation of the breech block. A hydro-spring type of recoil system is employed and the recoil piston rod is attached to the breech ring. The recoil system includes the recoil mechanism, the recuperator or counter-recoil mechanism and the buffer mechanism. The tube itself is machined to provide bearings for attachment and alignment on the sleigh.

The gun, which weighs only 6,100 pounds, carriage and all, will throw a 1.34-pound high explosive shell for a horizontal range of 9,300 yards or vertically as far as 6,400 yards. The shells are provided with a very sensitive detonating nose and will explode on contact with the lightest airplane fabric where former shells would pass harmlessly through a wing, fuselage or non-vital part. This new shell, detonating as it does on contact, is very destructive at any point. Furthermore, the detonation is delayed for a fractional part of a second so that the shell will pass into the wing or plane before the actual detonation takes place. The shell will penetrate any armor plate protection the plane may carry. Interspersed with the high explosive are tracer shells so that the gunners can follow the trajectory and ascertain the closeness of their fire by eye. The shell has a separate time fuse which explodes and destroys it in the air after



research section of the Ordnance Department has also developed improved methods of welding that have made possible the substitution of light welded members for the heavy cast parts of the carriage. This makes the carriages much lighter and more stable. With rubber tires and ball bearings these guns can be towed at high speed. Counter-balancing springs permit the lowering of the carriage to the ground, from the traveling position to firing position, in a quarter of a minute.

The gun is laid by two independent mechanisms, one for traversing and the other for elevating, operated by



two gunners. They sit in light seats suspended from the gun so that their position in relation to the gun and two telescope sights remain unchanged regardless of the movements of the gun itself during firing. A battery of these guns can also be laid and fired automatically by the mechanical computer and the firing data transmission system.

Anticipating a distant airplane traveling at 3, 4 or 5 miles per minute and getting explosive shell up there to meet it is the function of the mechanical computer, a metal box with a couple of hand wheels and telescopes for following the plane in flight. It solves the various firing problems that the battery commander and his detail once solved laboriously by mathematics and slowly phoned to the guns. It solves them instantly and continuously with the element of time added, so that the projectiles arrive at a predetermined point simultaneously with the arrival of the plane.

#### THE BOFORS 40-MM. GUN

The 40-mm. gun was given the acid test by the United States Ordnance Department, adopted and put

several shells gives the trajectory the appearance of a red beam. Thus the gunners can see exactly where the shells are going. The bursting charge is detonated when the super-sensitive nose fuse hits the plane, or, if it misses the target it is detonated when the tracer composition burns out.

#### 37-MM. AIRCRAFT GUN

As an aircraft weapon the 37-mm. gun is located in the airplane on a "fixed" mount. To aim it the pilot points his plane at the enemy craft and fires it by remote control. This type is fully automatic. Ammunition is fed in clips loaded into a link belt which is folded into a magazine. There is also a feeder for 5-round clips that fits into the ammunition tray. High explosive shells with a super-sensitive detonating nose and self destructive powers are used.

#### 37-MM. ANTITANK GUN

As an antitank gun the 37-mm. weapon has a much lighter carriage than the antiaircraft gun, since high elevation and wide traverse are not necessary for this



Main armament of Uncle Sam's light tanks is the 37-mm. gun visible in the turrets of these "iron horses." Each tank carries also five .30 caliber machine guns, one suitable for antiaircraft, and a Thompson sub-machine gun.

into production last year. While its carriage functions quite like that of the American 37-mm. gun, its construction details are entirely different. Aircraft can be tracked with reflecting sights for "point blank" fire or the director can be used.

The 40-mm. gun has approximately the same rate of fire as the 37-mm. It throws a 2.205-pound high explosive shell. Gun and carriage weigh but 4,300 pounds when traveling. A prominent feature of this gun is the bell mouth flash hider on the barrel. The tracer shell, the chief projectile used with this gun, contains a bursting charge, tracer compound, nose fuse and base fuse. Firing the gun lights the base fuse, which ignites the tracer composition about 55 yards from the muzzle. This traces the trajectory as a red point and a burst of

mission. Pneumatic tires, split trail, frictionless bearings and light welded structure are its most obvious features. The gun weight, carriage and all, is less than 1,000 pounds and one man can operate it although its normal crew is six. This is a mobile infantry weapon of great firepower and with a projectile weighing almost 2 pounds, it has a range of around 12,000 yards and a mechanical rate of fire of approximately 25 rounds per minute. The breach mechanism is manually operated. It is normally drawn by a half-ton truck.

As high explosive shell will not penetrate thick armor plate, armor-piercing shell is used. While an interior shell burst might accomplish more destruction, the ricocheting of an armor-piercing shell around the inside of a tank is quite adequate.



# Armored Reconnaissance

*By Lieutenant Colonel H. H. D. Heiberg, 1st Armored Division*

THE Reconnaissance Battalion of an Armored Division is the division commander's independent ground reconnaissance unit. In the performance of its mission, the battalion operates much as do other similar units, namely the reconnaissance squadron of the Cavalry division, and the scout car squadrons of the Corps Reconnaissance Regiments.

From the recent extended maneuvers in which this command participated I have selected a typical example of one type of reconnaissance performed by the Armored Reconnaissance Battalion and will discuss it briefly.

## FIRST ARMY VS. I CORPS REINFORCED BY 1ST ARMORED DIVISION

November 3-6, inclusive, 1941

On 3 November 1941 the Blue First Army was known to be concentrating in the general area CHE-RAW, S. C.—ABERDENE, N. C.—MT. GILEAD, N. C., east of the PEE DEE RIVER.

The 1st Armored Division, recently arrived by rail and marching from the LOUISIANA maneuver area, was bivouacked to the south of ROCK HILL. The Red I Corps, to which the division was attached, was concentrated in the WAXHAW-LANCASTER area.

It was expected that hostilities would commence early 4 November. The Red mission was to hold the Blue force east of the CATAWBA RIVER. The Red Commander planned to advance his I Corps rapidly upon the outbreak of hostilities and seize the commanding ground, MONROE-PAGELAND, holding the Armored Division centrally until the situation developed sufficiently to offer an opportunity for the employment of its offensive strength.

During the evening of 3 November the division moved into concealed bivouacs just west of the CATAWBA. As radio silence was in effect it was necessary to report our new location by messenger. Having a hunch that the 81st Reconnaissance Battalion would be in for a little action before the division became involved, I set out for the Division Command Post to report our location. Sure enough, General Magruder wanted to see me. The battalion was to be released when hostilities opened in the morning. We were to move out on either flank of the I Corps, continuing reconnaissance beyond their advance as far as the PEE DEE RIVER; to gain and maintain contact with the Blue forces west of the PEE DEE RIVER reporting strength, composition, and movement. We were to locate suitable assembly areas on both flanks from which the Division might attack. In addition, with our organic

tanks (only ten, newly issued in Louisiana) we were to represent large numbers of tanks on both flanks, confusing the enemy as to the location and intentions of the Armored Division. Initially the 12th Observation Squadron of the 1st Armored Division was to work directly with the reconnaissance battalion. For final confirmation and instructions I had to go to I Corps Headquarters which added sixty miles to my wanderings. There I found that we could not move until ordered, that the time of movement was not yet known but probably would not be prior to daylight.

Returning to the Battalion Command Post at about 2:30 AM, 4 November, I had the company commanders routed out of their warm beds for orders. The assignment of areas for reconnaissance was as shown on Map A (omitted). A platoon of three (3) tanks was attached to "A" Company, which was to operate on the north flank of the I Corps. As it was expected that this company would be out of physical contact with the battalion, ration and extra fuel trucks were given it. The rest of the tank company, ration and fuel trucks moved initially with battalion headquarters.

Word came to move out at 6:00 AM, 4 November and by 6:30 the reconnaissance companies had cleared bivouac, battalion headquarters following at 6:40 AM.

The companies moved rapidly over routes indicated to their areas before fanning out to perform reconnaissance.

At 9:50 AM "D" Company, Captain LeMoyné commanding, reported first contact with Blue troops near McBee. Company "B," Captain Surles commanding, next reported two battalions of 71st Infantry moving on PAGELAND via HIGHWAY 9 at 10:32, and ten minutes later "A" Company, Captain Quirk commanding, radioed that 101st Cavalry scout cars were operating around MARSHVILLE. All three reconnaissance companies had gained contact . . . but the tough part of the job was still ahead.

To continue their movement in the direction of the enemy, the platoons must now resort to "side slipping," that is, using little known dirt roads and trails, and occasionally ducking cross country, but always keeping close enough to the main highways to observe enemy movements there. This was found to be the most effective way of avoiding antitank guns throughout the maneuvers since heavy artillery vehicles seldom seemed to use poor roads, and even truck loads of infantry usually pick fairly good routes to follow.

By the use of aerial photos, a reconnaissance platoon can often find a route good enough for scout cars that does not appear on the largest scale maps. In this way the reconnaissance platoon may at times advance many



miles into enemy lines without its presence being disclosed.

Company headquarters moved well into their areas using back roads and trails and by early afternoon had established their Command Posts in concealment; "A" Company near MARSHVILLE, "B" Company near CHESTERFIELD, and "D" Company near PATRICK.

Patrols of scout cars, bantams and motorcycles worked their way throughout the area seeking cover at the first contact, and from concealment, observing troops in bivouac and on the move. From these patrols throughout the day came a steady stream of radio reports which were relayed by the companies to battalion headquarters.

The 12th Observation Squadron was working directly with the reconnaissance companies in reporting movements across and in the vicinity of the PEE DEE RIVER as the following two messages received by battalion headquarters illustrate.

No. 19—"75 trucks with 26 AT guns 37 and 75-mm. moving N 20 MPH on Hy 52 head of column 8 mi N SOCIETY HILL 10:15 A 20 trucks moving W 5 MPH on Hy 77 4 mi E CHERAW. Air report 10:40 A 8 S/C 4 trucks 1 large trailer all Blue in Bivouac 5 mi N.E. McBEE 11:08 A. 'D' Company 11:15 A."

No. 25—"From observation plane quote: Large column of enemy vehicles est 5 mi long crossing PEE DEE RIVER on Hy 74 mostly trucks some scout cars est 8 AT guns have just crossed river also enemy column est at 50 vehicles consisting of trucks and few scout cars moving SW from LILESVILLE 11:10 A 'A' Co. 11:38 A."

Other typical messages:

No. 29—"One company 174th Inf knocked out 2 mi SW PAGELAND. Continuing mission. 'B' Co. 12:15 P."

No. 30—"Large blue force strength undetermined concentrated 8 miles NE WINGATE. Destroyed enemy scout car 101st Cav vicinity FAIRVIEW on Hy 151-'A' Co. 12:51 P."

No. 38—"Blue 104th Engr. 71st Inf and artillery Div near PAGELAND. 'B' Co. 1:56 P."

No. 39—"182d Inf at FOUNTAIN HILL. Hy 74 clear to MARSHVILLE. 'A' Co. 2:12 P."

No. 43—"1 Co 115th Inf at RUBY 1:00 P. Blue troops numerous between CHESTERFIELD AND MERVEN at 2:40 P. 'B' Co. 2:50 P."

No. 45—"Third platoon wiped out except peep and mortar at CR 151 and 27. 101 Cav. Ren. active vicinity MIDLAND. 'A' Co. 3:16 P."

No. 47—"104 Blue Cav. bivouacked on Hy 85 one mi N Hy 1 x x x 'D' Co. 2:53 P."

No. 56—"110th Inf Mq. 3 mi S MARSHVILLE also elements of 156 FA x x x 'B' Co. 5:30 P."

No. 62—"Area south and east of McBEE suitable for assembly area. 'D' Co. 7:35 P."

No. 74—"CP unchanged. Blue forces holding bridge



1—Lieutenant Colonel H. H. D. Heiberg, commander of the 81st Reconnaissance Battalion, 1st Armored Division. 2—Dashing and daring as the horse-mounted cavalryman, the cyclist is one of the most envied and important of all the individual armored division soldiers. 3—Regardless of terrain and weather the vehicles and men of an armored reconnaissance battalion perform their missions.

two mi W PEACHLAND on Hy 74. Bn Blue Inf in bivouac S CR HAMILTON. 'A' Co. 10:10 P."

These messages are typical of the character of information that was coming in. Numbers are the battalion message centers numbers assigned incoming messages over the battalion command net alone. There were nearly 100 such messages. Enemy information was sent



in clear and information on friendly troops was generally sent separately in a single code.

The larger units were identified. Reports continued to come in through the night and the next morning until by Noon 5 November every major combat unit of the Blue army had been identified.

Battalion headquarters with its ponderous tail, crossed the LYNCHES RIVER about half an hour behind "B" Company, bound for PAGELAND which seemed a likely place to establish a Command Post. "B" Company's report that the 71st Infantry was approaching PAGELAND drove us to cover about half a mile west of the village. Motorcycle intelligence scouts sent forward to watch these troops reported that they had deployed astride the road and were moving in one direction. Having no desire to become involved in a fight at this time, battalion headquarters and trains, sandwiched between the two remaining tank platoons, began doing a little sideslipping on their own. Using air photos we worked our way over obscure trails into the heavily

wooded, rough country between PAGELAND-JAMESTOWN and the LYNCHES RIVER. Feeling reasonably secure for the time being we began coiling our long column into a thick patch of woods when an excited lieutenant came up from the tail of the column in a bantam and told us the rear guard was being fired upon by antitank guns and the tail of the column was under artillery fire. Moving east again we ran into strong opposition on Highway 151 and lost a half-track. With the rear guard holding off the pursuing tank destroyer element we doubled back and then moved cross country into thick woods on the side of a hill. This position we quickly outposted with concealed tanks and machine guns while the rear guard, consisting of a maintenance half-track and two tanks, diverted the enemy over another route and rejoined after eluding him.

A troop of the Horse Squadron of the 102nd Cavalry gave us a start shortly after this when it suddenly appeared moving west from Hy 151 with the leading



Of all units of the fast-moving armored division, the reconnaissance battalion covers the roughest, newest terrain.



platoon deployed astride the road adjacent to one position. Intent on the terrain to their front they missed our outposts by yards. Seeing that they were friendly troops, I stopped a nearby squad leader, found that they were withdrawing across the LYNCHES, told him what we knew of the situation in the vicinity and he galloped off to report.

A fusillade of shots a few minutes later indicated that our friends the enemy were still in the vicinity, but the firing soon subsided and the cavalry disappeared.

It was now late afternoon and our perigrinations had interfered considerably with our reporting to division the mass of information that was coming in from the reconnaissance companies. We were having difficulty in communicating by radio with the division so on advice from a nearby farmer that the nearest telephone was about a mile down Highway 151, the S-2 made a perilous cross country trip in a bantam to a nearby patch of woods and sneaked across the highway on foot between hostile detachments and got our report in to division by telephone.

At dark "B" and "D" Companies were instructed to send in guides for fuel and ration trucks. "B" Company's guide, Lieutenant Karcher in a bantam, arrived about 8:30 PM with a hair-raising tale of his exploits of eluding enemy capture, including joining and moving with a hostile blacked-out column for part of the way. "D" Company's guide never arrived.

Based on information gathered by the battalion, the division moved under cover of darkness to the south flank preparatory to an attack from the line PATRICK-McBEE on PAGELAND-MT. CORGHAN the morning of 5 November.

The 81st Reconnaissance Battalion, less "A" and "B" Companies which were to remain in contact, was ordered to withdraw across the LYNCHES RIVER to the vicinity of KERSHAW prepared for further action.

Moving south on Highway 151, blacked-out, in the rain, battalion reached the vicinity of the BETHUNE BRIDGE, west of McBEE (previously reported destroyed by enemy) at dawn 5 November, where we went into concealed bivouac awaiting further orders. We had been unable to cross the LYNCHES further north because all crossings had been destroyed by friendly infantry shortly after dark 4 November.

"D" Company in withdrawing from PAGELAND had encountered antitank dispositions of the 104 Cavalry and 176 Field Artillery in the vicinity of McBEE and reported on these locations while working around to join battalion headquarters.

While the battalion was still moving into concealment, the 6th Infantry (Armored) started advancing on McBEE, crossing the LYNCHES on the BETHUNE BRIDGE which had been repaired by the 16th Engineers (Armored) during the night.

The leading battalion commander of the 6th Infantry was contacted and informed of the situation at McBEE as we knew it. Next a reconnaissance officer of the

27th Field Artillery (Armored) was flagged down and told of the McBEE dispositions. And so as the 6th Infantry moved in to secure the assembly position each unit commander was contacted and given the latest information.

"A" and "B" Companies continued their reconnaissance activities to the north reporting movements in their assigned areas. In addition "A" Company began operating their attached tank platoon with the object of creating the impression of a large tank force on that flank. So successful was Captain Quirk in this deception that he had the enemy thinking there was a tank regiment there. I quote from an umpire report:

"I must commend Captain Quirk on his ability to maneuver his unit, causing the enemy to become confused as to the size of the force opposing. With 2 tanks he had the enemy believing there was a whole regiment. The enemy did not know our strength until 4:30 PM. The enemy umpire had the captain move his column through their lines to give their men a chance to see what had been holding them. Units delayed: 104th Infantry, 182d Infantry, 181st Infantry, 102nd Field Artillery."

This force consisted of "A" Company Headquarters and 4th Platoon, a squad of the reconnaissance platoon of the 16th Engineers and two tanks from "C" Company.

"D" Company, which had been filtering back during the day, was charged with the close in security of Division Headquarters (which set up on the east bank of the LYNCHES near the BETHUNE BRIDGE) because activity of horse patrols of the 104th Cavalry along the river had made this protection necessary. However, we eventually got them fed and serviced by vehicle, squad or platoon.

The movement of the division to the south had been so delayed by friendly demolitions on the south flank that the assembly for the attack was not completed until late the afternoon of 5 November. Reports from "A" and "B" Companies indicated that hostile units were beginning to move southward to meet the mechanized threat building up on that flank.

Having lost the element of surprise, General Magruder decided to reverse his field under cover of darkness and launch his division from the north flank the morning of 6 November.

For deception the 6th Infantry was left in position on the south flank with the remains of our tank company, 6 tanks, to run around through the assembly area all night making a noise like two light and one medium tank regiments.

At dark we again moved out, blacked-out, in the rain, this time to the north on the west bank of the LYNCHES RIVER.

"D" Company, followed by Battalion Headquarters covering the advance of the division.

Dripping wet, we reached the new assembly area before dawn where the long column of the Division



began to coil. The movement had been made without contact or discovery. The Division was ready to strike by 8:30 AM 6 November. And so the problem terminated.

The 81st Reconnaissance Battalion had existed for two days surrounded by hostile troops and sustained vehicle losses of about twenty-five per cent. By harassing action it had inflicted greater losses upon the enemy. There is no doubt that our losses could have been reduced materially had the various patrol leaders resisted the temptation of attacking isolated and unsuspecting

hostile troops, particularly on 4 November where no deception or diversion was desired. This is a problem that confronts most reconnaissance commanders. It is believed, however, that in actual combat these leaders will not be so eager to engage forces many times their size.

Despite these heavy losses the battalion was able to continue its reconnaissance and maintain a steady flow of information throughout the period. It was this exercise that earned for the 81st the title of "Phantom Battalion."



# Tank Destroyer Command

THE War Department has announced the organization of a new Army combat force—the *Tank Destroyer Command*—with Headquarters at Camp Hood, near Killeen, Texas. This command is part of the Army Ground Forces under Lieutenant General Lesley J. McNair. Camp Hood will be commanded by Brigadier General Andrew D. Bruce who will coordinate the instruction of tank destroyer units, test weapons and tactical doctrine, and develop technique.

The Tank Destroyer Command received its initial impulse from old Antitank Battalions and an experimental Tank Destroyer Battalion, last August. The second step in its development came in December when a Tactical and Firing Center was set up temporarily at Fort George G. Meade, Maryland. A number of Tank Destroyer Battalions are now completely organized . . . and they are ready to: "*Find 'em, Fight 'em and Finish 'em!*"





# Photographic Unit<sup>★</sup>

WHEN the 2d Cavalry Division moves into the field, it will be fully equipped in terms of modern warfare, even to a complete photographic unit. A unit of the 162d Signal Corps Photographic Company, temporarily attached for experimental purposes during Louisiana maneuvers, has been permanently attached to the division since November, 1941 and has now attained the ability to function efficiently as a fully rounded Signal Corps outfit.

The 162d unit is an amazing example of determined self-sufficiency. Having comparatively little precedent in the way of field experience to guide it, this new Signal Corps outfit—one of several first organized in June, 1941—weathered the war games like a veteran, literally pulling itself up by the bootstraps to a permanent niche in cavalry operations. Living up to cavalry requirements of swift mobility in the field is not easy for other troops. When delicate laboratory equipment is involved, the problem assumes special proportions.

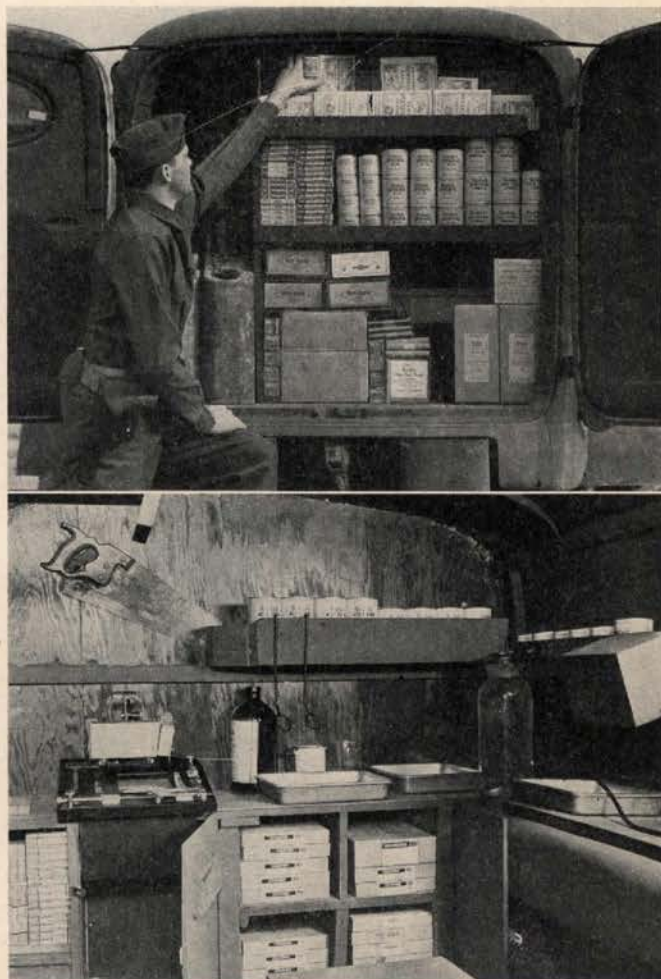
The difficulties pertaining to field operations were met with a will that inspires admiration. Map problems and rigorous field training taught photographic personnel that "shooting" for the cavalry entails work equalling the average day of a rifle troop, with long hours stretching far into the night as well. However, operating with delicate equipment under a variety of difficulties has now become an accustomed part of the day's work. When maneuvers were over, the unit's experimental period as such was ended. Nevertheless even more intensive work was ahead before the cameramen could enjoy a breathing spell—work which has repeatedly justified the outfit's existence.

The 162d Photographic unit, its apprenticeship with the 2d Cavalry Division completed, arrived at Camp Funston, November 5, 1941 with two truckloads of assorted equipment and a determination to "make good." On November 6th they were shooting pictures. Their first darkroom was a black-out tent set up in an office at Division Headquarters where negatives could be developed. The makeshift arrangement was not suitable for printing, however, and this was done in the Cavalry School darkroom at night until better facilities were arranged at Division Headquarters.

A couple of weeks passed in this manner until they were assigned a building vacated by the Division Finance Office which had moved to other quarters. Then the work really started. The building was not equipped for a studio in any sense of the word. Undaunted, the camera unit, which is composed of a former cavalry lieutenant, a sergeant and five PFC's, set to work. Out came excess fixtures and partitions. In went two darkrooms for developing and printing, a

storage room, an office, and a portrait studio. Shelves, cupboards, developer sink and every stick of furniture were made by hand. Some of it could hardly be called a joy to the eye—but it serves the purpose. In this self-made workshop, the unit carries on, poised and ready for instant action when the Division moves into the field. Of course it hasn't been so easy as all that. "Poised and ready for instant action" in the cavalry means exactly what the words imply.

A made-to-order mobile darkroom similar to those used by the Air Corps had been promised the Unit. Time passed and none materialized. The handicap of operating from a field base where all laboratory darkroom work must be done had proved a crippling waste



*Top:* Everything needed for speed and efficiency in the field is to be found aboard the photographer's mobile laboratory, including the contents of this auxiliary supply closet. Note the "blacked-out" door windows.

*Bottom:* Compactness is the keynote of this portable darkroom built into a 1½-ton panel truck. Entry is from the driver's seat. The partition separates laboratory from auxiliary supply closet in rear. Compartment appears roomy enough but work must be done in sitting position.

★By G-2 Section, 2d Cavalry Division.





Poised for action: Personnel of the 2d Cavalry Division's 162d Photographic Company unit takes its own picture. Obviously "shooting" is not all done with a camera. Thompson sub-machine guns and .45 revolvers share honors with Speed Graphic cameras as the 162d lines up in front of its darkroom-on-wheels.

of time and material during maneuvers. If the photo unit, expected to hold its own in a cavalry division, something had to be done. And it *was* done.

The ingenuity of this outfit in furnishing its portable laboratory was further demonstrated by a fourteen gallon gasoline tank salvaged from the motor pool and fitted snugly under a darkroom table to serve the purpose of a water storage tank. Since the water should be hot for some needs, the lieutenant in charge contrived a "heater" with the help of an old kerosene lantern whose missing chimney was replaced by an empty developer can. When lighted and placed under the tank, it serves its purpose with surprising efficiency. As the lieutenant put it, "It's a crazy looking thing. But, dammit—it works!"

An enlarger, contact printer, developing tanks and processing trays can be fitted compactly into the mobile darkroom along with chemicals, film and paper supplies. The cavalry photographers are equipped with three Speed Graphic (4" x 5") cameras. One standard type of non-curling film is used to assure ease of use and processing.

On the back side of a neatly constructed partition is additional space accessible from the truck's rear doors. In here are found shelves for flash bulbs, additional film, auxiliary gasoline supply and pioneer tools.

When the unit moves into the field it is prepared to carry with it a 12 volt gasoline motor which generates

the power necessary to supply illumination for developing and printing. Three outlets, wired to carry 110 volts of current for safe-lights, are provided in the darkroom. If for some reason power is not available, ordinarily contact prints can be made with sunlight. Enlargements, however, cannot be printed without the aid of electrical illumination by the present set-up.

The photographic unit works in close harmony with the Public Relations section while in garrison. But picture shooting activity is not confined to publicity shots alone. Recently the cameramen were of great assistance in supplementing a medical report which called for pictures of dispensaries, medical supplies and equipment. The outfit is often augmented by a moving picture crew which is equipped with sound recording apparatus. While in the field countless pictures are taken which are invaluable as records—identification of prisoners, examples of demolition activities, occupation procedure and often actual combat. The photographer may be called on at any time to shoot pictures for any one of the cavalry's many departments.

Color pictures as well as black and white are frequently used. With the aid of a "color-blind" assistant, they are especially useful in spotting enemy fortifications protected by camouflage. The telescopic lens also comes into play here. A novel and expensive device which is now past the experimental stage is the "black-out" flash bulb. Using an infra-red filter and film, the



photographer can take very satisfactory close-up shots after dark with the aid of an infra-red flash bulb whose explosion can barely be detected by the human eye. A special infra-red paint and filament give the bulb its invisibility.

The activities of the photographic units are limited to ground work. They move with the troops. However, when additional copies of aerial photographs are needed—as they often are—the photo unit is always there and can do the job. Its skilled men and its record file are available when the occasion arises. Four contact prints of each negative are always made for record, in addition to numerous enlargements which serve the needs of a fighting force. A complete record file of pictures and negatives is kept by the unit clerk.

During field operations the 162d Photographic unit will be attached to Division Headquarters as a part of G-2 section. In addition to the portable darkroom truck, it will employ a seven passenger carry-all which carries the personal equipment of the unit and all personnel not transported by the truck.

Photographers will no doubt be called upon to get pictures behind enemy lines. This calls for constant training in scouting and patrol work. Each man is armed with a .45 revolver and has been trained to operate a Thompson sub-machine gun—one to each truck of the unit. *He is first a soldier—then a photographer.* He must be able to follow troops closely in an attack, making use of his own fire power when necessary to secure needed photographs. Working as a part of the Intelligence section, his duties are clearly defined—to worm his way ahead of the division, get needed information, record it and return safely—a scout with a camera. All this is in addition of course to routine behind-the-lines work as recorder and publicity cameraman.

In a recent C. P. problem the cavalry photographers demonstrated not only speed of movement, but unusual celerity in producing finished prints for immediate use by division staff officers to verify and augment operations with maps. To test the possibilities of the unit as an additional agent to a reconnaissance mission, the photographers were placed in the forward echelon, while the dark room remained in the rear echelon. With the aid of motorcycle messengers it was found possible to take, develop, print and have pictures at the spot needed in 45 minutes.

Exposed negatives were rushed from the front lines to the rear echelon dark room, a distance of six miles, where double strength solutions of developer and acid hypo-fixing bath aided in rapid development and fixing, then rushed back to the front. The enlarged prints thus made were good for three days, at the end of which time they began to stain and fade because the negatives were not washed until after the finished prints were made. However, the negatives, immediately after the first printing, were washed in a small creek chosen for that purpose beforehand.

In the meantime the “rush” prints had served their

purpose and permanent enlargements had been made for possible further needs. A complete reconnaissance photographic report was then in the files and no extensive written report was necessary. All the work was done with illumination furnished from a six-volt storage battery, doing away with the immediate necessity of a power line or gasoline driven power generator.

At present the photographic personnel is undergoing rigorous physical training to keep them in trim for front line duty. Long hikes each week, combined with field training in chemical warfare defense measures, machine gun and pistol work, and coverage from aircraft attack is adding to their qualifications as soldiers. They have to be tough. A cameraman can get caught in a jam as easily as the next fellow, and with valuable photographic information on his person it is of special importance that he know how to get himself out of it.

During the C. P. problem mentioned the cameraman worked with the regular burden of full field equipment in addition to photographic paraphernalia at all times. The art of camouflage was given special attention, with grass and dead leaves serving to blend vehicles into the early spring terrain. The photographer has learned to adapt himself quickly and efficiently to the particular requirements of individual Division units—at any time, in any place. He has taken a delicate and highly progressive art and learned to apply its many possibilities to the problems of a modern army. The artist-photographer, through necessity and the desire to serve ably wherever he may be needed, has become the soldier-photographer. The results of his work may be seen in the country's newspapers and magazines, on the news-reel screens, and—by the selected personnel who are actively engaged in directing the efforts of the armed forces—on the field desks at the front. There he has spied out the enemy, recorded his position and his strength, his pattern and change of strategy, and furnished the staff officers with a clear picture of operations in a fast and efficient manner. The camera makes no errors.

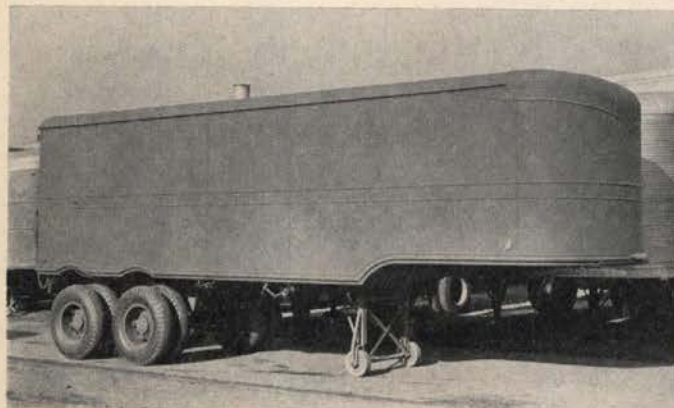
Spontaneous enthusiasm of the men for their work has been of great help in building the 2d Cavalry Division's photographic unit into an efficient and self-reliant outfit. When equipment is lacking, they build it. If they need paint, they “borrow” it. Serviceable tools are contrived from strange discarded gadgets. The portable darkroom was furnished from packing crates plus odds and ends picked up from the salvage yard, motor pool, and constructing quartermaster.

There's something about photography which inspires its devotees to unusual effort—something which borders on the scientist's thirst for knowledge, his hope of discovering new secrets which will be of service to his fellow man. The 2d Cavalry Division's new photographic unit possesses that something. Such an aura of inspirational effort lends initiative and pride in the individual's routine work. It gets things done. It has earned the cavalry photographer *his spurs!*

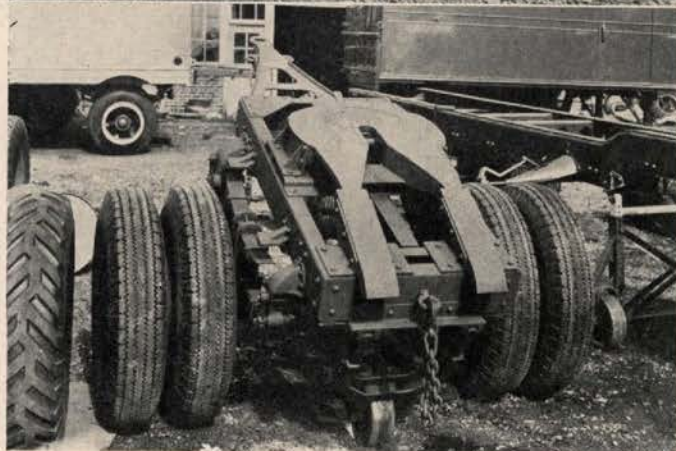


# Trailers Solve Many Problems

By J. Edward Schipper, M.S.A.E.\*



Upper left: Van-type of trailer for general heavy-duty cargo work. Drop-frame construction with differential dual tandem wheels. Upper right: Special 7-ton carryall unit with walking-beam tandem axle used for transporting Caterpillar trailers with cranes. Lower right: "Dolly" with fifth wheel for converting semi-trailers to full trailers; trains can be made from two or more semi-trailers thus equipped.



THE tremendous versatility of the trailer for military purposes is clearly illustrated in the wide variety of such units now employed and projected for future development. The January-February issue of *The CAVALRY JOURNAL* carried a comprehensive story on army trailers and illustrated a number of different types. On this page are shown additional units which are particularly adapted for heavy-duty use.

By the use of drop-frame construction and by the employment of tandem axles, it is possible to get tremendous carrying capacity combined with a low center of gravity. Illustrated here is a van-type trailer. This unit is suitable for general cargo work. It weighs five tons and has a capacity of 14 tons. In other words, the gross vehicle weight is 19 tons. It is equipped not only with the tandem axle, as shown, but with differential dual wheels. These provide independent rotation for each of the duals thereby avoiding the scuffing of the tires, which necessarily results from the use of the rigid duals with wide centers between adjacent tires. This van-type trailer is 26 feet in length.

For the transportation of matériel, an entirely different type of trailer design is required. Here again the

drop-frame type of construction is extremely valuable in lowering the center of gravity, contributing therefore to the stability of the vehicle. On this type unit, tandem axles may be employed, as shown here, or in the case of extremely heavy equipment multiple wheels are often employed.

Another interesting development in army trailers is the "dolly" which is employed to convert a semi-trailer into a full trailer unit. This is an adaptation of a highly efficient hauling unit very successfully employed in commercial work.

At this time a great deal of attention is being given to the ability to transport artillery of much heavier capacity than that which has formerly been considered as field or mobile units. Cavalry as well as infantry and artillery must contend with the need for both increased fire power and mobility. The load that can be carried on a self-propelling unit is limited by many factors which do not prevail in the case of trailers. In this type of work as in other forms of transportation, the value of the "shuttle" system cannot be overstressed.

Bigger loads, greater maneuverability, greater range on a tank load of fuel, more versatility and less manpower per ton-mile are all essential and valuable attributes of this form of transportation.

\*Advertising Counsel, Fruehauf Trailer Company. (Member, Society of Automotive Engineers.)



# Cadres and Training

EDITOR'S NOTE: This valuable training memorandum emanated from Headquarters of the Second Army—commanded by Lieutenant General Ben Lear.

THE Army is being called upon to furnish officers and enlisted men as cadres for the training of new units soon to be formed. . . . "FIT TO FIGHT."

## TRAINING

Among the considerations to be impressed upon the training personnel is the chief lesson we have to learn from the events of the war since December 7, 1941—which is no more or less than emphatic affirmation of training and character, principles that are familiar in our military teachings but that have been given insufficient practical demonstration:

*Reconnaissance:* Intensive and unrelenting, expert and indefatigable, a test of the professional capacity of officers and men.

*Disciplined Dispersion:* The skilful dispersion of potential targets—planes, trucks, stores, troop elements—making the most of concealment as well, wherever that is attainable. This also requires expert planning and prompt disciplined action, so that dispersion does not lessen effective control at any time.

*Physical Ruggedness:* The development of the power of stamina, so that the ultimate resources of human character may be drawn upon by bodies enured to hardship and prolonged endeavor against obstacles. This cannot be acquired by any royal road to attainment. Soldiers cannot march over broken terrain 15 to 20 miles a day, over roads 25 to 30 miles a day, with full equipment, day after day, and still be physically and spiritually equipped to do hard battle unless they have developed that stamina by such marches and are prepared to meet tests of that character on call. There is only one way to build legs and hearts—and that is to build them in training, so that when they are called into action no unusual, unaccustomed strain is put upon the soldiers in addition to the other unavoidable strains to which they are subjected under battle conditions.

Our infantry soldiers think too much in terms of gasoline transportation. They must be prepared for situations where long marches day after day or night after night will have to be made on their own power, either because the terrain denies truck movements, or because gasoline supply shortages will most certainly exist in many instances, or because enemy air operations may make the overloading of roads fatally impractical. . . .

*Over-emphasis on Equipment:* There is a tendency in the press, in civilian opinion, and among too many of our personnel, to believe that equipment is the chief answer to the soldiers' problems. That is a grave error of emphasis. Equipment does not fight. It is an instrument of men. Equipment is not a substitute for char-

acter, esprit, dogged determination, élan, development of tactical skill, and the will to close with the enemy and destroy him. There will be times when our enemies may have superior equipment, and the American soldier shall have to hold his ground or take ground in the face of that partial and limited superiority in instruments of warfare. That will always be true somewhere. That is where spirit, character, training, and the will to win come into play. It is a false premise, psychologically enervating and injurious to morale, to place an emphasis on equipment doing the work of men. This is also true in relation to air power. We cannot conceivably have air superiority at all times and in all places. But we can have superiority of determination and moral and physical ruggedness. Without that we are not "fit to fight."

We have much to learn, it is true; and there are and will be new things to learn. But we must first prove that we have thoroughly established the fundamentals upon which success in defense and victory in offense depend in every battle against a determined enemy. Let us never make the mistake of underestimating our foes or overestimating our tools. Men are the essence of fighting; the hearts, the courage and the blood of soldiers win wars. It must be fixed in the mind of every individual officer and man in the Army that *man*—the American Soldier—is the master machine in war.

## ESPRIT DE CORPS, AND MORALE

The training and spirit of the soldier reflects the zeal, the pride, the loyalty and the professional ability of the officers and noncommissioned officers entrusted with his training. The development of *esprit de corps* is a responsibility of leadership and must, therefore, be exemplified in the personality of the leader. He sets the note, and his pride of accomplishment evokes pride and will to learn on the part of the soldier. The exchange of loyalty—the unstinted capacity to give of one's self—between the officer and the soldier cannot be too complete. The never-failing loyalty and service of the officer to his men should be outstanding, an example of devotion to duty, of understanding of human nature, of generous willingness to endure every hardship.

## SIMPLIFIED TRAINING

Training must be reduced to its simplest possible form. If we can train each individual officer and man in the Second Army to *obey*, to *march*, to *shoot*, and to *be imbued with the irresistible will to victory*, we can point with pride to such an accomplishment. The above tasks require time, effort, intelligence, reflective and creative thinking, and inspired leadership. There is no exertion that provides a greater reward to the soldier than the conscientious preparation of his comrades at arms for success in battle.



# LEADERSHIP

By Lieutenant Colonel J. J. LaPage, (Cavalry), A.G.D.

**A**TENDENCY to accept without question the old Axiom, "A leader is born and not made" has developed recently despite ever present emphasis on the development of leadership in all echelons of command. Consequently, many young officers have received a "brush off" when they have attempted to secure definite knowledge of that mysterious and nebulous quality "leadership" that they must develop and exemplify. It is granted without question that "a born leader" may go farther than a "made leader" but since so many leaders are needed and so few are born, definite efforts must be made to make or develop leaders. There are many methods of developing leadership, but the two considered most applicable are: guidance and assistance by superior officers and endeavor by the leader himself.

Many reams have been written on leadership and it is not the intent of this article to discuss at length the general term. Presented in diagram form, for ready reference, are the qualities considered most essential in a leader. (These qualities are not entirely personal ideas as they have been crystallized from discussions occurring during interviews with hundreds of Reserve Officers competing for appointments in the Regular Army.) If superior officers will observe younger officers for these qualities and assist in their development and, if the younger officers will constantly strive to exhibit these qualities, leaders will be developed whom men will willingly follow. Remember that it is necessary at all times to think like a leader, act like a leader, and be a good example for others to follow.

Many young officers will easily understand the diagram and the dictionary meaning of the words employed, but naturally their principal interest is "how may I exhibit the qualities listed?" For that purpose a brief explanation of the "every day" manifestations of those qualities which are not self-explanatory follows together with the most common pitfalls that must be avoided.

**Integrity.** Morality. Select your companions, and means and places of amusement with extreme care. The easiest way to lose the respect of your men is to be seen in a place of low repute. Watch your alcoholic consumption and don't be seen with too much aboard. Don't appear near your troops with the faintest trace of alcohol on your breath. A beer at lunch will leave lingering traces that will cost you the respect and trust of your men.

**Justness.** Impartial. Non-commissioned officers should be considered as a group and apart from the other enlisted men. Avoid special favors to any particular NCO because of his duties, but, on the other hand, don't forget the special relationship between a first sergeant and the company commander. Don't ride certain men because they may be slower than others, and don't push outstanding men. Give each man the opportunity to earn his niche by his demonstrated ability.

**Loyalty.** Subordinates. Always be willing to assist a man in personal or military difficulties. Make every practicable effort to improve the mess and living conditions of your men, limited only by means available. Ascertain that equitable distribution of fatigue and other unpleasant duties is made. Always see that your men are fed and are as comfortable as practicable before thinking of your personal comfort. Support a subordinate even when he has exhibited faulty judgment. Don't correct or call to his attention the errors of a subordinate where men under him can hear the conversation.

**Superiors.** Support and carry out orders and policies at all times. Avoid criticism of your superiors for by indulging in such you lose the respect and trust of those hearing your remarks.

**Knowledge.** Ability to Impart. Prepare your lectures and demonstrations so that they will be interesting as well as instructive. A little acting ability will be of great assistance. Avoid mannerisms that will distract the attention of your class.

**Initiative.** Be on the alert to detect and correct errors. **LOOK FOR THINGS TO BE DONE.** Don't wait for your commander to point out tasks to be accomplished. As long as the execution of your initiative is within the boundaries of outlined policies, you will be commended, but avoid innovations without first discussing them with your commander. Remember that poorly directed initiative is worse than none at all.

**Bearing.** You will be judged by your appearance and bearing. Always appear as neat, clean, well shaven and as well shined and polished as is practicable. A sloven appearance and poor bearing will create a definite doubt of your efficiency. Never appear with buttons missing or outer clothing unbuttoned. Your uniform should be worn with pride. Select it with care and have it tailored to fit.



# LEADERSHIP

INTEGRITY	Honesty	Deed and Act	Trustworthy
	Morality	Truthful	Honorable
JUSTNESS	Justice	Clean Living	Avoid Prevarication
	Impartial	Clean Thinking	Avoid Exaggeration
LOYALTY	Self	Clean Acting	Avoid Omission of Fact
	Subordinates	Reward	Self
KNOWLEDGE	Superiors	Punishment	Companions
	Technical	Fairness	Self-Restraint
INITIATIVE	Ability to impart	Consideration	Surroundings
	Thought	Family	Promotion
BEARING	Physique	Religion	Commendation
	Personal Appearance	Officers	Prompt
EMOTIONAL STABILITY	Uniforms	Enlisted Men	Equitable to offense
		Chain of Command	
JUDGMENT	Sound	Country	
	Accuracy	Thorough and Detailed	Present
COÖPERATION	Inspiration	Ability to Apply	Future developments
	Superiors	Instructing ability	Voice
DEPENDABILITY	Equals	Demonstration	Manner
	Subordinates	Reasoning	Gestures
		Concise, Clear	
		Alert	
		Considered	
		Logical	
		Innate	
		Developed	
		Beard	
		Hair	
		Fingernails	
		Clean, Well pressed	
		Repair	
		Properly fitted	
		Poised	
		Level Headed	
		Not excitable	
		Considered	
		Weighting factors	
		Correct	
		Proper application	
		Soundness inspires others	
		Personal confidence	
		Full support	
		despite conflict of ideas	
		Helping hand	
		Open mind	
		Assistance	
		Guidance	
		Reliable	
		Trustworthy	
		Loyal	



# The Cavalry, R.O.T.C.

## Massachusetts State College

*By Colonel Donald A. Young, Cavalry\**

MASSACHUSETTS STATE COLLEGE, located in Amherst, Massachusetts, overlooking one of the most picturesque sections of the Connecticut Valley, has had military training as part of its curriculum since its foundation in 1863. Its first military classes were in operation in 1867, and military science has been taught at the college since that date.

The purpose of the College in including military science in its curriculum was made clear in the very beginning. This instruction was intended not only to train officers but also to strengthen the defenses of the country by diffusing some knowledge of military principles among educated men. That purpose was well realized when more than thirteen hundred former students of Massachusetts State College saw service in the first World War, and of that number four hundred and forty-six were commissioned officers. How well their knowledge served the nation in that emergency is indicated by these figures and the records of the men; it is a record of which the College is justly proud. The requirement that all able-bodied male students receive basic military training has continued to the present time. Since the establishment of the Cavalry R.O.T.C. Unit in 1920 a total of about 8,500 students have been given military training. Of these over 400 have been commissioned in the Cavalry Reserve. As we confront another crisis in our history, the value to the nation of compulsory military training at Massachusetts State College is again revealed.

The R.O.T.C. in its present form of a Cavalry Unit was established in 1920. The selection of Massachusetts State College by the War Department for one of the few Cavalry R.O.T.C. units in the nation was a happy one. The Connecticut Valley has always been a horse country. No section of the country, except perhaps Virginia, Kentucky, and the Southwest, has known more interest in horses and equestrian sports, and the only change through the years has been an evolution from trotting to saddle horses. With its long-standing background of military training, and located in the heart of fertile horse country, Massachusetts State College was a *natural* for a Cavalry Unit.

The Massachusetts State College is run on the University plan and has a total enrollment of about 1800. That total is broken down into about 1300 in the four-year College, including 400 co-eds, the agriculture sec-

tion (Stockbridge School) of about 400, and the Graduate School of about 100.

The College is fortunate in having a very large acreage of campus and adjacent farming and experimental areas, crisscrossed by dirt roads and fences. Many of these fences have been paneled to provide access to mounted troops. In addition, the College has a large Forestry Reservation on Mt. Toby, ten miles north of the campus. This reservation, with its varied terrain of trails, mountains, streams, and ponds, is available for R.O.T.C. training. It has proved invaluable for overnight and week-end camps, marches, mounted and dismounted problems.

The R.O.T.C. instructional staff at Massachusetts State College consists of four officers and seventeen selected enlisted men of the regular army. The Cadet Officers (Seniors) are rotated as assistant instructors for the first-year basic instruction as a means of further developing leadership, initiative, and self reliance. The Cadet Officers (Seniors) and N.C.O.'s (Juniors) are given full responsibility for their respective units, and competitive drills and exercises develop a high type of troop unity and *esprit*.

The Massachusetts State College R.O.T.C., an all-Cavalry unit, is conducted in accordance with the standard plan promulgated by the War Department. The climatic conditions obtaining in New England require for the most effective progress in military training that the R.O.T.C. program be divided into fall, winter, and spring periods. The fall period devoted to outdoor practical training, the winter period to indoor theoretical training, and the spring period to more outdoor and practical work. Hours of instruction are staggered throughout the week, and the classes broken down into sections for effective training. All students are required



Machine-gun instruction and firing.

\*P. M. S. & T., Massachusetts State College.





Top: Major General James A. Woodruff, Corps Area Commander, inspecting the Corps of Cadets. Bottom: The P. M. S. and T. and honorary colonel inspecting the regiment.

to take the basic R.O.T.C. course, which is a requisite for graduation. The Cadet Corps has a strength of about 500 and is organized as a Regiment of five troops of two squadrons.

The stables located adjacent to the campus have a complement of seventy horses, and are the center of activities during the spring and fall periods. To say that the college is horse-minded is, as the horses can well testify, stating the matter mildly. The extensive mounted-drill field adjacent to the stables contains a large horse-show ring, paddock, bull-pens, jumping-chute, and other cavalry equipment. It recognizes no holidays; and the occasional falls, spills, and "bawls" are taken as a matter of course.

The advanced military classes are kept abreast of the rapid changes in military organization and operations by means of a private reading room in the military building. Here are kept such current periodicals as the *Cavalry Journal*, *Army and Navy Journal*, *Leavenworth Military Review*, and many others; here, too, are books of military interest. Articles which have timely bearing on topics being studied are required reading. In addition, the various materials distributed by the Cavalry School are made available and constitute an important part of the program of instruction. All seniors are required to do extensive reading in the customs of the service and the problems which confront the young officer.

As for marksmanship, the record speaks for itself.



The indoor small-bore rifle gallery has been improved and the marksmanship program expanded to insure adequate training for all students. The College has held the National Championship more than once in the intercollegiate indoor matches held under the supervision of the National Rifle Association. The present student body is maintaining a high record. A strong rifle team is now engaged in firing matches with many competitors scattered throughout the nation.

The summer training\* given to the first-year advanced cadets is the highlight of their college military training. The six weeks in the field are filled with intensive and practical instruction; during this time a march of over four hundred miles to Fort Ethan Allen

\*EDITOR'S NOTE: Since this article was set in type, R.O.T.C. Summer Camps have been suspended for the duration of the war in favor of the basic training course at appropriate special service school.



*Top: On the march to week-end camp. Center: Cadets bivouac. Bottom: Ready for the return march.*

and return is conducted. At the Fort the cadets qualify on the range with the service rifle and pistol, and receive training with machine guns and other weapons. They also combine with the Norwich Unit in tactical problems and exercises. During the march to the Fort and return, the officers in charge take full advantage of the rough terrain and back country roads of Massachusetts and Vermont to teach and practice, with problems and exercises, the principles and technique of reconnaissance, night marches, concealed bivouac, river crossings, outposts. All this formal training is supplemented, of course, by the more personal things which the cadets as embryo cavalymen must learn in the field. At the end of six weeks of intensive field work, living with their horses and sleeping in pup tents, the cadets return bronzed, hard as nails, filled with confidence in themselves and their horses, wise in the ways of horses and men; and another group of real cavalymen is born.

In the present emergency the course of instruction has naturally been extended and intensified. Not only are more class hours devoted to military training in the college schedule, but also much of the college program has been modified to meet defense requirements. This change helps the R.O.T.C. both directly and indirectly. For example, the facilities of the Physical Education Department have been used to insure that all students get a thorough training in first aid and military sanitation and hygiene.

The standard for selection for Advanced Course training and commission is high at the Massachusetts State College. Selection is determined by competition, and once accepted the cadet has to prove himself in every way during the two years of basic training. The competition is keen and hard; the men selected are the fittest of the fit. Limitation of allotment this last year precluded many fine men from selection to the advanced course R.O.T.C. The Marine Corps and the Navy are, however, selecting many of these men for commission.

The administration, the faculty, and the co-eds are solidly behind the R.O.T.C.—a fact evidenced by the support rendered and the hours allotted for military training, which exceed the War Department requirements by one hour per week. The co-eds, by their intense interest in the Corps of Cadets, are an important encouragement to the R.O.T.C. Many of the cadets owe their stripes and bars to the energetic backing of their campus girl friends, who are not adverse to telling them to go out and make good as military men, or else! A co-ed honorary Cadet Colonel is chosen each year by the Advanced Course Cadets at a formal military ball; she is the envy of the female college population.

As part of the College Commencement week exercises, each year the Cadet Officers under the supervision of the Military Instructors sponsor and conduct a horse show which is one of the leading events of the Connecticut Valley.

The declaration of War brought a new and more





● ● ● ● ● Cadets training remounts. ● ● ● ● ●

serious realization to the R.O.T.C. Cadet of the value of military training. It was at once realized by the Corps of Cadets that their military training was now an extremely grave and serious matter and the reaction to the increased demands was immediate. A new note of earnestness and appreciation towards their training was at once evident. The College put into effect under supervision of the Physical Education Department an intensive body building program of bodily contact and hardening exercises. This was taken in stride by the Cadets even though it cut into their little free time and set their dinner hour back. The indoor range increased in popularity; spontaneous individual and squad competitions in marksmanship developed. There were not enough daylight hours available so voluntary evening sessions were organized. There were more demands for privilege riding. Even the horses appeared to feel that something was developing when their work hours and oats increased. Freshmen eyed the Cadet Officers with greater respect and polished their belts with a bit more care. The first year Advanced Course Cadets were bitterly disappointed when the War Department announced the necessary suspension of the summer field training. The class to a man volunteered for a week of field training at their own time and expense immediately following Commencement. The spirit had always been present, but a new urge had been added.

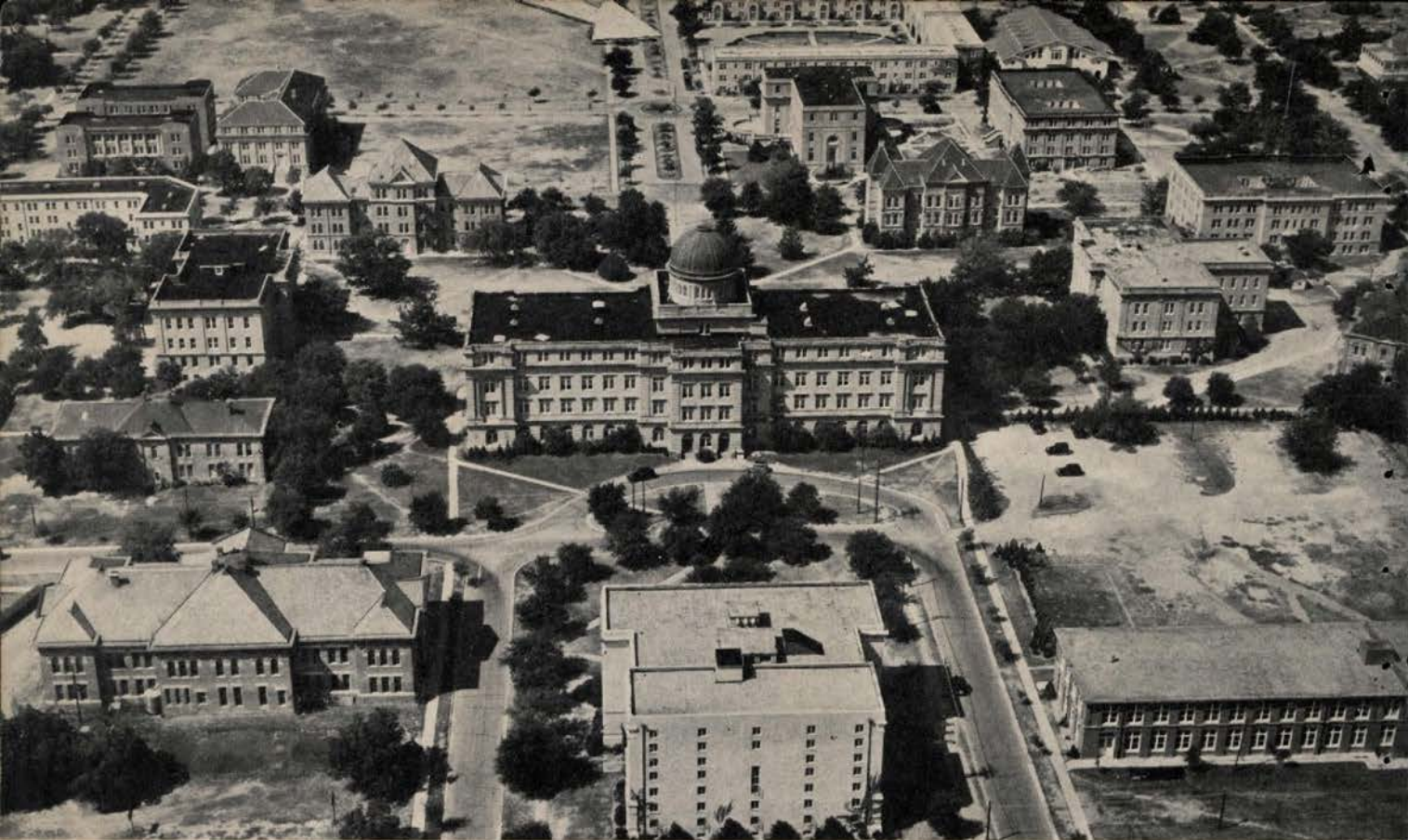
On the other hand the declaration of war imposed greater and more definite tasks on the P.M.S.&T. and the military instructors. No longer do the newly commissioned Second Lieutenants O.R.C. go out into pro-

fessions and industry, to attend short training camps and carry on theoretical training through extension courses. They now must be prepared to go directly to the field or to service schools for specialized training immediately following graduation and take their place in a unit of the growing Army of the United States.

Every effort is being made at Massachusetts State College to increase the practical training of the Advanced Course Cadets. More time is being devoted to training in the technique of weapons; to leadership of small units; to development of mental alertness, initiative and resourcefulness. Much of this is being accomplished by voluntary week-end camps during the fall and spring seasons which the College indorses and supports. It is felt by the College that it is time well spent by a student. Should a cadet cut Saturday morning academic classes to mount-up and march over the road to a camp of military instruction its a College contribution to the war effort. The Cadet will be in class the following Monday clear eyed and confident.

The State of Massachusetts is proud of its Cavalry R.O.T.C. Unit and in turn the Reserve Officer graduates are proud of their training received at Massachusetts State College. In the current appointments to permanent commission as 2d Lieutenants, Regular Army, by competitive examination of Reserve and National Guard Officers on extended active duty, announced by the War Department in February, six of the fifteen appointments in the Cavalry branch were won by Massachusetts State College graduates. Massachusetts State men are making good in the Army of the United States.





Law and Puryear Hall, Cavalry Barracks (see arrow upper center).

# Cavalry R. O. T. C. at Texas A. and M.

*By Lieutenant A. P. Utterback, Jr., Cavalry*

IN our rapidly expanding army, the rôle played by the Reserve Officer is becoming increasingly important. So, it is only natural for an officer to want to know what kind of training the R. O. T. C. Cadets are receiving, and what he might expect of these soon to be commissioned officers who will be under his command in the near future.

Texas A. & M. boasts nine units and now has in the service well over six thousand Reserve Officers. Although the Cavalry Unit is not the largest on the campus (about 500), approximately fifty officers are commissioned annually.

The Cavalry Unit here is set up, for training and administrative purposes, as a regiment of two squadrons of two troops each. In addition, a Headquarters and Service Troop, and a Machine Gun Troop are attached to the squadrons. These two troops are auxiliary troops in name only, and actually perform as rifle troops. The Organization is as nearly as possible the same as a regular regiment, from the Regimental Headquarters down through the squad. The unit has two barracks, two men living in each room. Under the supervision of the instructors and tactical officers, responsibility is

placed on the Regimental, Squadron, Troop and Platoon Commanders, for training, discipline, police of the barracks, as well as administrative duties. Morning Reports, Sick Books, Duty Rosters, and a system of Troop funds are kept by all troops, the troop commander rotating the administrative duties so that each Junior and Senior cadet has practice as Administrative Officer. All records are as authentic as possible, and are checked daily by the instructors.

The service uniform is worn at all times. The uniform for students enrolled in the basic course is Government Issue, and that of the advanced course students is purchased from a uniform allowance furnished by the Government. This is advantageous to the cadets as the uniforms are virtually the same as the Regular Army uniform, and so give the graduate a start on the equipment he will need after being called to active duty.

Recently the College has been setting up its machinery for a change from a four- to a three-year plan, which shortens the time of graduation to three years, the school operating the entire calendar year. This plan becomes effective in June, at which time the new school year will begin, and although this schedule shortens the time of training, it does not compress the scope of instruction. Along with this change came a two-hour in-

<sup>1</sup>Cavalry, Coast Artillery, Field Artillery, Chemical Warfare Service, Engineers, Signal Corps, Infantry, Ordnance and Quartermaster Units.



crease in the present practical instructional period, which now allows all cadets four hours of practical drill per week. Another recent change was the inauguration of 7:15 (War Time) Reveille and calisthenics. The drill is conducted by Squadrons by the cadet officers. After calisthenics, rooms and barracks are cleaned. All cadets march to the mess hall for all meals. The summer camp which was attended by all advanced course contract cadets during the summer between the Junior and Senior year, will be deferred until immediately after graduation.

All Freshmen and Sophomore students are required to take the basic course, which consists of one theoretical and four practical hours per week. The basic course includes sixty-four theoretical (classroom) hours of military fundamentals, including Military Discipline, Courtesies and Customs of the Service, National Defense Act, Military History and Policy, Sanitation and First Aid, Organization of the Army and Cavalry, Map Reading, Cavalry Marches and Camps, Scouting and Patrolling, Weapons, Musketry and Technique of Fire. The practical (drill) course consists of two hundred fifty-six (256) hours of Rifle Marksmanship, Mounted and Dismounted Drill, Equitation, Principles of Scouting and Patrolling, Weapons, and Combat Principles of Rifle and Light Machine Gun Squad and Platoon. The Corporals are chosen from the Sophomore class and all other basic students are privates.

The advanced course is more intensive and is taken by selected Junior and Senior students. This course is seven hours per week, three theoretical and four practical. The advanced course includes Aerial Photograph Reading, Troop Administration, Care of Animals and Stable Management, Principles of Leadership, Instructional Methods, Horsemanship, Weapons, Combat Principles of Small Units, Defense Against Chemical Warfare, Military Law, Property, Emergency Procurement and Funds, Tactics and Technique of Mechanized and Armored Units, and Combat Intelligence. The Sergeants are chosen from the Junior Class and the cadet officers from the Senior Class. The Juniors and particularly the Seniors receive a great deal of time on instructional methods and leadership, since the Seniors are charged with a large amount of the training. For example—all drill, mounted and dismounted, weapons, rifle and pistol marksmanship, and some equitation and tactics are taught by the cadet officers, assisted by the cadet noncommissioned officers.

With the recent increase of time allotted to practical drills the Cavalry, as well as the other units at the college, has "taken to the field" in an effort to apply practically the principles taught in the classroom. Problems in Scouting and Patrolling, Security, to include Advance Guards, Flanks and Rear Guards, Covering Detachments and Outposts, Offense, Defense and Delay, take up the entire second semesters' practical work. The college is blessed with a rather ample sup-



*Top: Troop B en route to training area. Bottom: At review.*

ply of rolling wooded terrain near the campus, which is now being constantly used for tactical problems. The school schedule is arranged so that two troops drill each Tuesday, Wednesday, and Thursday afternoon from 2:00 to 6:00 P.M. Although we have only enough horses to mount one troop at a time, this schedule allows each troop to be mounted every other week, or else half the drill period each week.

On March 28th, the Nineteenth Annual Horse Show was held at the College, and sponsored by the Cavalry Unit. This show was open to all cadets of the College, regardless of branch, and such events as jumping, charger classes, hunt teams, various polo classes and other events were featured. The horse show is a part of the locally renowned Cavalry Week, which includes the Annual Cavalry Ball.

After four years of military training here at A. & M., with experience as private, noncom, and officer, these new officers receive a broad outlook with which to start their active military careers. There is, of course, no substitute for actual duty with troops, but the graduates here leave with a sound background and the determination to quickly become capable officers in order to take their places beside their "Ex-Aggie" predecessors.



# R. O. T. C., University of Illinois

*By Colonel Murray H. Ellis, Cavalry*

THE Military Department of the University of Illinois is one of the largest R.O.T.C. establishments in the country. The total enrollment averages close to four thousand. The instruction staff consists of thirty-one officers and fifty-six enlisted men. Colonel Leonard C. Sparks, FA, heads the department as Professor of Military Science and Tactics. The University and state authorities give the Military Department excellent support and have provided exceptionally fine facilities for instruction.

This University is a Land Grant school. All male students, except those few who are excused for physical disability or like causes, are required to complete successfully the two years Basic R.O.T.C. course in order to be graduated from the University. The Advanced Course enrollment is limited by appropriations to six hundred. The number of applicants always has greatly exceeded the number who could be accepted.

Units are maintained by six branches of the service, Cavalry, Infantry, Coast Artillery, Engineers, Signal Corps and Field Artillery. The Field Artillery Unit is the largest and is divided into Horse drawn and Motorized divisions. The size of the various units is controlled by quotas set up by the Professor of Military Science and Tactics. Within the limits of these quotas, students may select the branch in which to be trained.

Most of the activities of the Military Department are housed in the large Armory which contains a drill floor 220 feet by 400 feet, a gallery range with a hundred firing points, and ample class room, office and storage space. There are two drill fields, one of which is used for dismounted drill and polo and the other for mounted drill.

The Cavalry Unit has an average enrollment of about 625, about 100 of whom are advanced course students. The Cavalry is popular with the students and the unit would be much larger if it were not limited to a quota.

The Cavalry instruction staff consists of six officers, one Lieutenant Colonel, regular army and five assistants, reserve officers on extended active duty. Lieutenant Colonel John D. Hood, Cavalry, is the unit director and is assisted by Captain Olaf A. Watne, Captain Roy E. Etnyre, First Lieutenant Howard P. Schaudt, First Lieutenant Bruce W. Benedict and First Lieutenant Phillip R. F. Danley. All of these officers except Colonel Hood are graduates of the University. One sergeant and one private first class assist in the practical instruction and the clerical work, these in addition to the stable crew.

The Cavalry and Field Artillery units together are allowed 150 horses which are pooled and used by both Units. The stables and storage facilities for forage are excellent. The stable crew numbers a total of twenty-five enlisted men.

The Cavalry is organized into eight troops for drill and other practical instruction. Each troop has one two-hour drill period a week. The seniors are the Cadet Officers and instruct the freshmen and sophomores under the supervision of the officer instructors. The Juniors have most of their practical work separately from the rest of the classes and a good proportion of their drill time is devoted to equitation, animal management, and other horse subjects, in order to prepare them to act as instructors to the freshmen and sophomores the following year.

Although the University is located in the heart of a great farming country, the great majority of students know little or nothing of horses or horsemanship. Accordingly, one of the first and most important tasks is to teach them the rudiments of horsemanship and horsemastership. There is no indoor riding hall large enough to accommodate a troop. This necessitates holding all mounted work outdoors, with the attendant interference from weather conditions. However, by concentrating the mounted work in the fall and spring and scheduling the dismounted work largely during the winter months it is possible to meet this problem fairly satisfactorily.

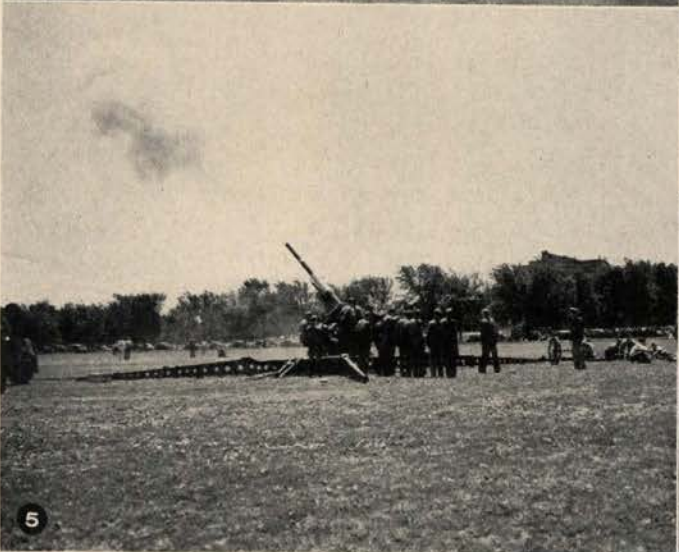
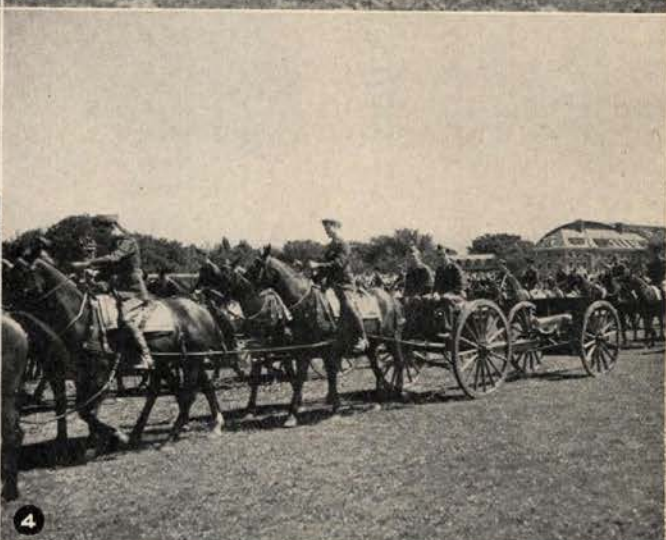
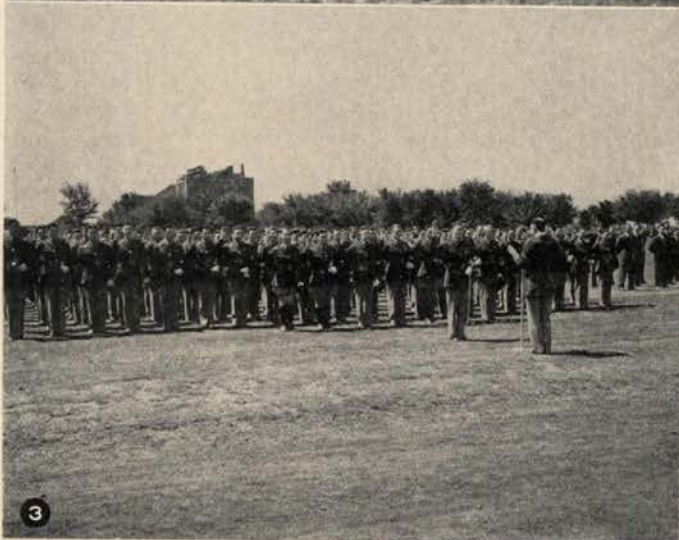
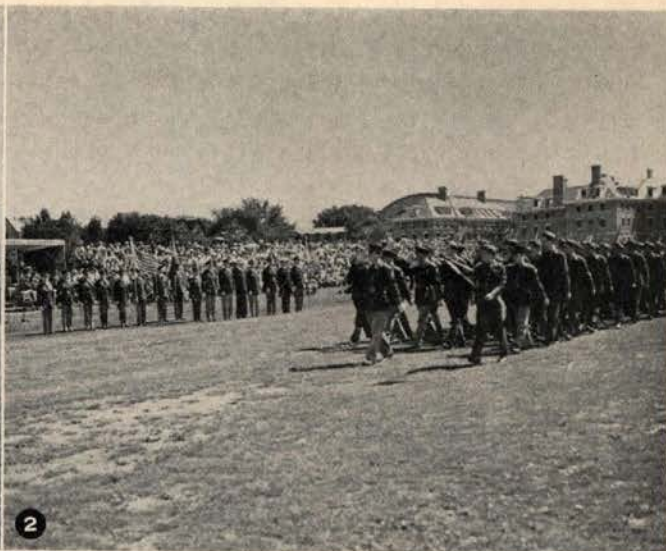
It has not yet been possible to obtain any mechanized equipment or the new cavalry weapons, due to more urgent demands elsewhere. This necessitates that the instruction in these subjects be entirely theoretical. This is unfortunate, as many of our graduates when ordered on active duty go to the Armored Force or to Mechanized elements of the Cavalry.

For a number of years past the advance course students attended a summer camp, normally between the Junior and Senior years. These camps have been held at Fort Custer, Michigan. In recent years, there has been no Cavalry at Fort Custer to assist in the R.O.T.C. instruction. Last summer the 5th Rcn. Troop was present part of the time and rendered great assistance by making available its men and equipment for the instruction of the Cavalry Cadets and by putting on problems and demonstrations in which the students participated. *The War Department has recently announced the discontinuance of summer camps for the duration of the war. Hereafter, students will be required to complete the basic course at the Cavalry School before being commissioned.*

In addition to the regular required work at the University, a number of extra-curricular horse activities are conducted. Many of the students get more horsemanship instruction in connection with these activities than in the regular classes. Among these activities are an honor troop called the Black Hawk Troop, semi-annual student horse shows, and the polo team.

The Black Hawk Troop is composed of Cavalry





#### GRADUATION REVIEW, R.O.T.C. UNIVERSITY OF ILLINOIS

1—Massed colors. 2—Infantry. 3—Newly-commissioned second lieutenants taking the oath of office. 4—Horse-drawn artillery. 5—AA artillery demonstration. 6—The Black Hawk Troop.

Sophomores who are candidates for admission to the Advanced Course. Juniors and Seniors act as officers and instructors. The troop receives additional equitation in-

struction and cavalry drill. Special drills are put on for the annual Military Day and other like occasions.

The student horse shows are held twice yearly,





1—Cadet Norman Key, newly-elected president of Cavalry Club, about to be baptized in the horse trough, a traditional ceremony. 2—Zowie! 3—University military stable. 4—Show-down inspection in bivouac at Gull Lake, Mich. 5—Cadets starting on a field exercise with the 5th Remount Troop.



usually in December and April. They are organized and sponsored alternately by the Field Artillery and Cavalry Cadet Officers' Clubs. There is strong competition between the riders of the two branches and many hours, on Saturdays and evenings, are put in in training and preparation.

Polo is a varsity sport at Illinois. Letters are awarded to the varsity players and numerals to the most promising freshmen. The University does not furnish financial support, which necessitates the payment of a ten dollar dues per semester by each member of the squad in order to meet the expense of the purchase of playing equipment and to finance trips. All members of the association are assigned to the A squad, the B squad or the C squad. Beginners are placed in the C squad where they are given a great deal of equitation and care of animals. Equitation classes are conducted four afternoons a week and Saturday mornings.

Since a large percentage of the officers now on duty with the Army received their commission's through the R.O.T.C., this activity has been, and will continue to be, of vital importance to the war effort. This University will continue to produce about three hundred officers per year, fifty of whom are cavalry officers, to help fill the pressing need for officers for our expanding army.



# University of Georgia Cavalry Unit

*By Lieutenant Colonel O. C. Newell, Cavalry*

THE Cavalry unit of the Reserve Officers' Training Corps, University of Georgia was established in 1920. It comprises the First and Second Basic course and the First and Second Advanced course. As the student progresses he is given more instruction in Horsemanship and Horsemastership and allowed more privileges in riding.

From the Second Basic class are chosen those students who have demonstrated their ability to continue with the Advanced course. The interest and self-improvement shown in extra curricular and voluntary work is of great assistance to the instructor in selecting those students who are to be allowed to enroll in the Advanced course.

The University of Georgia owns a large acreage of varied terrain which the First and Second Advanced students may use in cross country work. The cavalry stables have at present seventy-four public animals, cared for by a detachment of enlisted men. Near the stables is a sand ring and jumping pen in which the Basic students are given preliminary work. The Advanced students have access to a large jumping and hunting course including the normal obstacles one would meet in a cross country ride.

A practice mounted pistol course is conveniently located for advanced course students.

Saturday afternoon and Sunday mornings are open for typical small unit cavalry training and cross country rides by advanced students.

A "paper chase" is scheduled monthly followed by a hunt-breakfast. These events are attended by eighty to ninety per cent of those eligible.

Cavalry clubs have been organized by the First and Second Advanced students. They meet one evening each month at which time some interesting subject or motion picture on cavalry weapons or tactics is presented.

The Senior Club sponsors the annual Horse Show given at the University in the Spring Quarter.

The course of instruction as prescribed by the War Department for each class is as follows:

## FIRST BASIC CAVALRY

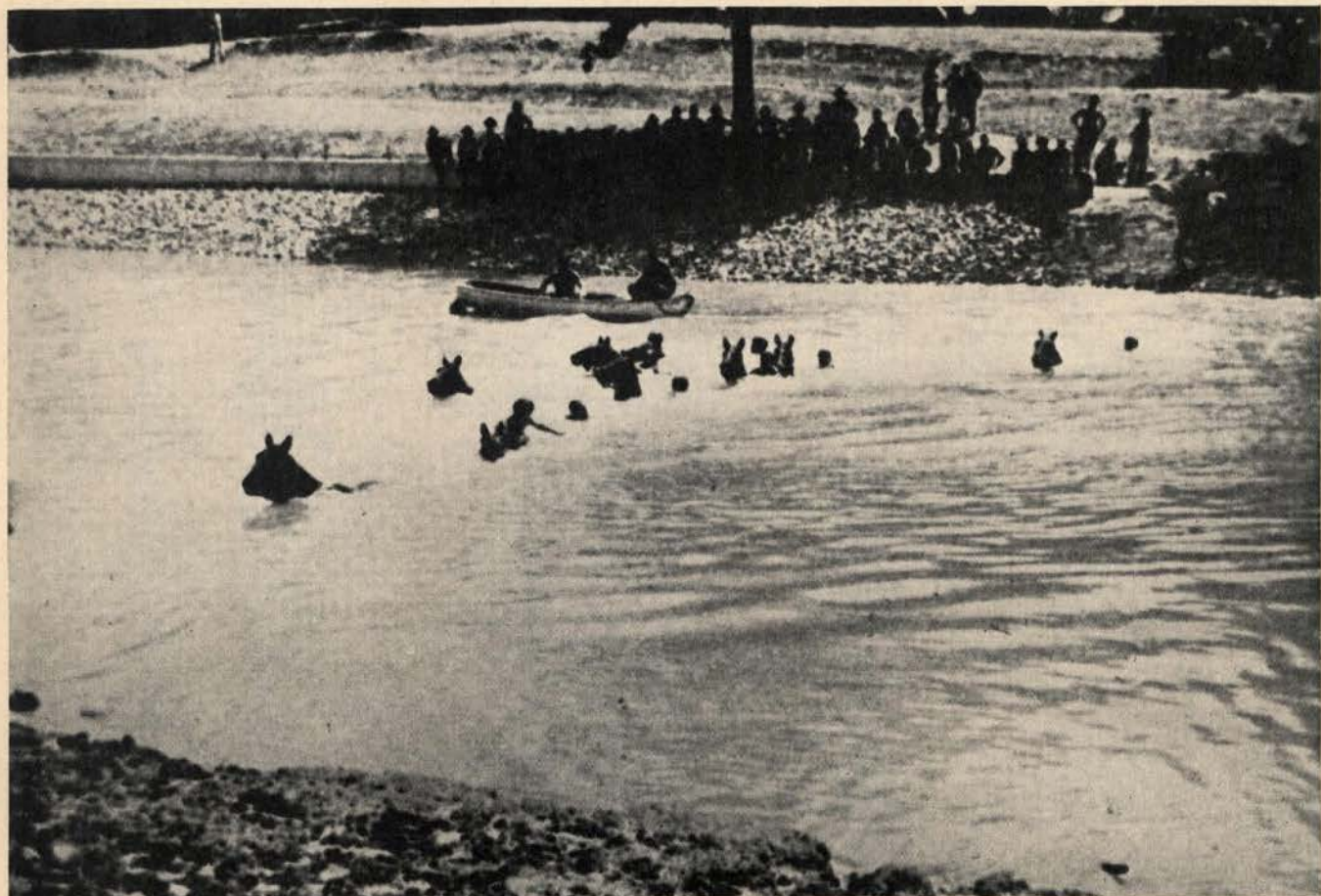
### 1. Military Fundamentals:

	Hours
(a) Orientation—National Defense Act and R.O.T.C. ....	2
Obligations of Citizenship .....	2
Military History and Policy .....	4
(b) Military Discipline, Courtesies, and Customs of the Service .....	3

1—Advanced R.O.T.C. students, University of Georgia, on a terrain exercise. 2—Students on rifle range. 3—Mounted wrestling. 4—Rescue race.







All training is limited to that which will produce the maximum practical application in war.  
Above photos were made during summer ROTC training with 6th Cavalry.



(c) Military Sanitation and First Aid . . . . .	5	4. <i>Combat Training:</i>	
(d) Organization of the Army—Organization of the Cavalry . . . . .	5	(a) Combat Orders and the Solution of Problems . . . . .	15
(e) Map Reading . . . . .	15	(b) Marches, Security, Development for Com- bat, Offensive Combat, Defensive Com- bat and Organization of the Ground . .	15
2. <i>Leadership:</i>		(c) Combat Principles of the Rifle, Light Ma- chine Gun, Heavy Machine Gun, Cali- ber .50 Machine Gun, 81-mm. Mortar, 37-mm. Antitank Gun, Scout Car, Mo- torcycle and Light Tank Platoons . .	26
(a) Cavalry Drill . . . . .	62	(d) Defense Against Chemical Attack . . . .	3
(b) Horsemanship . . . . .	10		
3. <i>Weapons:</i>		Total . . . . .	155
(a) Rifle Marksmanship . . . . .	15		
	123		
SECOND BASIC CAVALRY		SECOND ADVANCED CAVALRY	
1. <i>Leadership:</i>		1. <i>Military Fundamentals:</i>	
(a) Drill . . . . .	60	(a) Military History and Policy . . . . .	16
(b) Horsemanship . . . . .	25	(b) Military Law . . . . .	6
2. <i>Weapons:</i>		(c) Property and Funds . . . . .	3
(a) Cavalry Weapons . . . . .	14	(d) ORC Regulations, Continuation of Training as Reserve Officer . . . . .	2
3. <i>Combat Training:</i>		2. <i>Leadership:</i>	
(a) Technique of Rifle Fire . . . . .	11	(a) Principle of, and (b) Instructional Meth- ods . . . . .	46
(b) Scouting and Patrolling . . . . .	13	(c) Horsemanship . . . . .	15
(c) Combat Principles of the Rifle and Light Machine Gun Squad and Platoon . .	4	3. <i>Mechanization:</i> . . . . .	20
(d) Cavalry Marches and Camps (covered with (c) above)	—	4. <i>Combat Training:</i>	
	127	(a) Review of Combat Training from the Squad to the platoon inclusive; Com- bat Orders and Solution of Problems .	16
FIRST ADVANCED CAVALRY		(b) Combat Principles Rifle Training, Ma- chine Gun Troop . . . . .	30
1. <i>Military Fundamentals:</i>		(c) Antiaircraft Defense . . . . .	3
(a) Aerial Photo Reading . . . . .	5	(d) Combat Intelligence . . . . .	2
(b) Administration I and II . . . . .	5	5. <i>Review</i> . . . . .	6
(c) Care of Animals and Stable Management	6		
2. <i>Leadership:</i>		Total . . . . .	165
(a) Principles of Leadership and Instructional Methods . . . . .	44		
(b) Horsemanship . . . . .	18		
(c) Mechanized and Armored Elements . . .	4		
3. <i>Weapons:</i>			
(a) Cavalry Weapons . . . . .	14		



## Military History

**"For anyone who aspires to become a great commander, there is an open book, called military history, which begins with the hand-to-hand struggle between Cain and Abel and which did not end with Napoleonic Campaigns.**

**"Its reading, I must admit, is not always exciting. One has to plow through a mass of uninteresting details! But—one accumulates facts, often encouraging facts! and at the bottom of it all, one arrives at the final realization how it all came about, how it had to happen and may happen again."—von Schlieffen.**



# Cavalry Training at Culver

By Lieutenant Colonel B. F. Hoge, Cavalry\*

CULVER MILITARY ACADEMY, Culver, Indiana, controlled by the Culver Educational Foundation, is operated on a nonprofit basis. It has an enrollment of approximately 640 cadets, organized into Senior R.O.T.C. Units of Infantry, Field Artillery, and Cavalry. The Field Artillery is organized into a battery of 130 cadets, the Cavalry into a troop of 155 cadets, and the balance into four infantry companies and band.

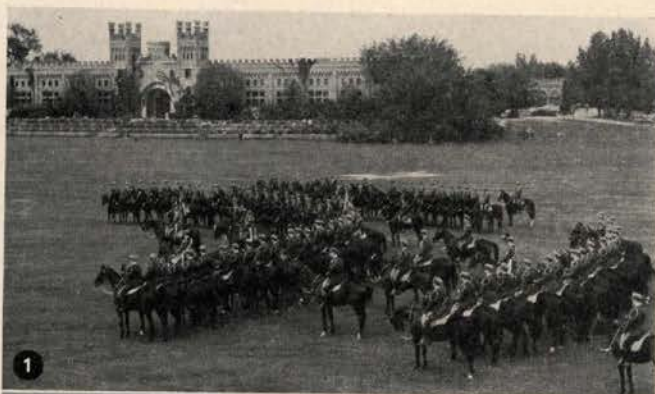
The cadets are quartered in modern, fire-proof barracks by organization. Each organization is administered by one or more tactical officers, who are generally reserve officers employed by the Academy. These officers assist the Regular Army detail in giving the required R.O.T.C. instruction. The physical plant at Culver is very fine and modern consisting of barracks, administrative offices, mess hall, gymnasium, recreation building, riding hall, stables, power plant, shops, arsenal, laundry, hospital, and 1,000 acres of diversified terrain, including beautiful Lake Maxinkuckee. The Academy owns and maintains its own animals, about 70 for the battery, and 140 for the Black Horse Troop. Horse equipment, guns, arms, *et cetera* are supplied by the Government. The riding hall has a floor space of 300 x 100 feet. In the basement of the Recreation Building is located a large gallery rifle range, a pistol range, and a musketry range large enough to fire squad problems on landscape targets.

Culver is primarily a preparatory school for college. The average age of new cadets upon entrance is fourteen and upon graduation eighteen. Of course, new cadets may enter who require but two or three years to complete the requirements for graduation. All new cadets enter one week in advance of the old cadets. During the week they are equipped with uniforms, instructed in military courtesy, the regulations governing the Corps of Cadets, close order drill. Also they are given intelligence tests, assigned to classes and given physical examination during the initial week.

During their entire stay at the Academy, all cadets are under strict military supervision. Rooms are inspected daily with a formal inspection on Sunday morning before Chapel. In the fall and spring, formal parades are held on Sundays after Chapel. The Corps is formed and marched to and from meals and R.O.T.C. instruction. In general, the organization of the Corps, its administration, system of discipline, and the daily life of the cadets, is very similar to that existing at West Point. The principal difference is the age of the cadets and the fact that the primary objective at Culver is to prepare the young man for entrance to college. In my opinion that half the value of the instruction at Culver, from a military viewpoint, is derived from the daily

experiences of the cadet where smartness, neatness, promptness and military methods of living are enforced.

The R.O.T.C. Cavalry instruction starts each year with close order drills without arms, followed by issue of arms and extended order drills—all dismounted. The drill period is generally between 2:30 and 3:30 p.m. from Monday to Friday inclusive. After about two weeks the old cadets of the Cavalry are ready for mounted work and the new cadets about two weeks later. Mounted instruction starts with basic equitation and horsemanship, than proceeds to squad drill, pla-



1—Cavalry on the parade ground with the riding hall in background. 2—Modernly equipped barracks. 3—Mounted units—the Artillery and the Cavalry—approach the reviewing stand at one of the weekly Sunday parades.

\*Professor of Military Science and Tactics.



toon drill, and finally a few days of troop drill. The above instruction usually terminates at Thanksgiving, when weather conditions make outside drills of little value. By this time the cadets and horses present a highly creditable appearance in mounted formations.

Indoor instruction is now started and continues until about April 1st when the weather permits resumption of outdoor work. The troopers are organized into four classes, corresponding to the four years of R.O.T.C. training prescribed by the War Department.

Training outdoors is resumed about April 1st and continues until June. Horsemanship and drill are reviewed and brought back to standard as rapidly as possible. Tactical training is then taken up involving marches, security, approach marches, attack and delaying action. The War Department allots but 96 hours to cover the assigned subjects in each of the basic years and 160 hours for each of the two advanced course years. To secure results that are at all satisfactory requires careful planning, and expert instruction, as the field of instruction is extremely broad. The entire time available could easily be spent on equitation and drill.

The Academy officials make a number of long drill periods available in the spring season, of two or three hours length each. These are invaluable in putting over the combat training. To attain reasonable perfection in covering the program as outlined here is a race against time, at best. The whole-hearted coöperation of the Academy officials, the splendid compact facilities avail-



Plebes forming for their regular noonday mess formation.

able, and the fine type of youngster to work on are factors that help in solving the problem.

## PRESS REPORTS

### RED CAVALRY UNITS TAKE MANY VILLAGES

—By the Associated Press

**Kuibyshev, April 25.**—Red army cavalry units, scorning the spring swamps which have bogged down other ground forces, have taken a number of German-occupied villages and reached an important highway feeding the German front, dispatches to the newspaper *Izvestia* said today.

The horsemen were reported to be harassing the Germans at every turn by lightning raids on villages despite the efforts of German planes and artillery to check them.

On the Karelian front, it was reported that a unit of Russian guards attacked a hilly sector where the Germans had been fortifying the crests during the winter and captured an important height. . . .

### GERMANS USE CAVALRY IN CAUCASUS DRIVE

—By the Associated Press

**Moscow (Wednesday), May 13.**—Heavy fighting raged through the night in the *Kerch Peninsula* with the Germans throwing masses of cavalry, tanks and infantry against formidable Russian forces defending that narrow gateway to the Caucasus, front-line dispatches reported early today. . . .



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This new Eighth Edition contains more information than ever before. The vital question of censoring soldiers' mail has been handled fully, as have the ticklish duties of the Public Relations Officer. The new supply procedure (Circular 105, April 10, 1942) has been included, and also the latest information on promotions (Circular 111, April 15, 1942). New colored plates on all the officers' insignia, and many of the shoulder patches of both the Army and Civilian Defense organizations have been included. Many other changes and revisions have also been made.

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## Book Reviews

**BUILDING MORALE.** By Jay B. Nash, Ph.D. A. S. Barnes and Company. New York, 1942. 154 pp. \$1.00.

Much has been spoken and written on the subject of morale, but this brief volume definitely has a new slant. Doctor Nash is chairman of the Department of Physical Education and Health, School of Education, New York University. In simple language he explains the importance of morale in our daily life and, in turn, how vital it is to the life of our country—"Morale by itself has no significance, but *morale for a purpose* is the all-important spirit that makes for victories."

All teachers, more than ever before, now have the great responsibility of stimulating the morale of their students. Although this book was written primarily for teachers, the parents of children and the commanders of troops can find in it material for similar responsibilities. "Morale wins wars, wins games on the athletic field, conquers the wilderness, carries us over crises and gives nations vitality to face and solve problems."

✓ ✓ ✓

**ARMY POSTS AND TOWNS** (1942 edition), Compiled by Charles J. Sullivan. Haynes Publishers. Los Angeles, California. 199 pp. \$3.00.

When it is most needed, this encyclopedic reference book of over 400 army posts and towns is now ready for distribution. It was compiled and edited specifically for army use. It serves a useful purpose.

All post libraries should contain a copy!

✓ ✓ ✓

**THE OFFICER'S GUIDE** (8th edition). The Military Service Publishing Company, Harrisburg, Pa. May, 1942. Appropriately illustrated. 479 pp. \$2.50.

This new (8th) edition of *Officer's Guide* is worthy of special attention. In our opinion it now stands preëminent in its field. It has assumed the earned position of a standard guide for officers, junior and senior, irrespective of arm or service. It contains a wealth of up-to-the-moment information that cannot, under a single cover, be obtained elsewhere.

Numerous changes in regulations necessitated changes in the previous editions; so opportunity was taken to rewrite and improve several chapters and to add several new and valuable features in order to complete the scope of its intended purpose—an officer's *personal* guide—a ready reference on customs and correct procedures that pertain to commissioned officers the Army of the United States.

Every officer will want a copy of this eighth edition of *The Officer's Guide*. Take our word for it!



**THE VALOR OF IGNORANCE.** By Homer Lea. Harper and Brothers. New York, 1942. 344 pp. Maps and Appendix. \$2.50.

What do we know of a little hunchback named Homer Lea who served as a Lieutenant General in the Chinese Republican Army? In 1909 in a book called *The Valor of Ignorance* he issued an extraordinary warning to the people of the United States—that war between the United States and Japan was inevitable. Clearly, by word and map, he outlined the course that Japan's aggression would take. Today, Japan is using precisely the general plan that Homer Lea then predicted. By some, Lea was acclaimed as one of the great military minds of the century; by others, a crank. Today, Homer Lea's conception of Japan's military course has been vindicated!

Of equal interest, however, is the introduction to this new edition written by Clare Boothe, in which is told the story, *The Valor of Homer Lea*. Be sure to read it!

✓ ✓ ✓

**THE DAY OF THE SAXON.** By Homer Lea. Harper and Brothers. New York, 1942. 249 pp. \$2.50.

As in his first book, *The Valor of Ignorance*, Homer Lea in this volume, initially published in 1912, similarly gave a warning. Forecasting the inevitable nature of the Anglo-German conflict, as early as thirty years ago Lea drew brutal and startling conclusions as to the measures England should take to meet German and Japanese aggression.

"Fresh and pertinent as though it had been written this morning are his findings on the 'racial' character Germans insist on giving to their war making. Lea today would be saddened and fearful anew to hear so many asserting that 'Hitler, not the German people is our enemy.' He would most certainly insist that only to deal with the Fuehrer and the Nazi leaders would simply be to leave Germany lying fallow for another Hitler."

Disregarded and denounced as an alarmist at the time, today Homer Lea returns to the literary and military spotlight.

Clare Boothe's introduction, "The Valor of Homer Lea," also appears in this second book.

✓ ✓ ✓

**MECHANIZED MIGHT.** By Major Paul C. Raborg. Whittlesey House (McGraw-Hill Book Company, Inc.) New York, 1942. 284 pp. Illustrated. \$2.50.

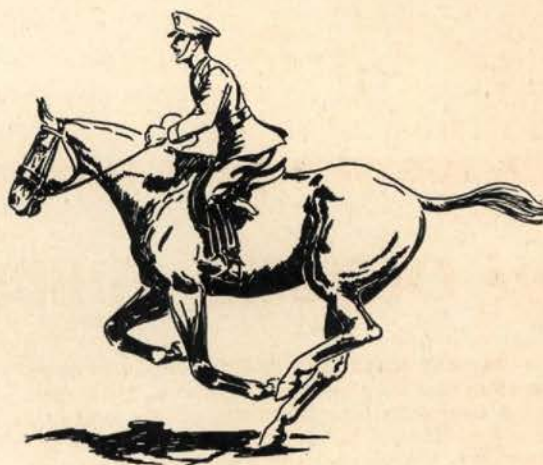
The author in easy style tells a descriptive and informative story of mechanization and motorization in our army. Having had personal experience in the Air Corps, Infantry and Cavalry as well as considerable staff duty in World War One, Major Raborg speaks authoritatively although obviously with more of a World War I than a World War II perspective.

His chapter, "The United States Cavalry and its Motorization," is of particular interest to cavalymen.

Major Raborg stresses in general what our army is doing to keep step with new developments and some of the lessons our military observers have learned from the present and previous wars.

Graphic descriptions of actual fighting add to the book's reading interest.

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—See last page, this issue.*

## Manual of Mess Management

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In this one volume a troop commander or mess officer, a mess sergeant or a cook, can find all the information necessary for running an Army mess of any size. It combines most of the material in the six main official books that apply to messing, plus additional matter for those who help in any way in the feeding of the American soldier. 346 Pages.

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WATERPROOF PAPER BINDING—\$1.50

*No. C-5 and C-6 on The Cavalry Journal booklist  
—See last page, this issue.*

THE ARMY OFFICER'S MANUAL. By Lieutenant Colonel A. C. M. Azoy, CAC, A. of U. S. D. Appleton-Century Company. New York. 366 pp. \$2.50.

For some time there have been two generally accepted personal "guides" for the army officer; i.e., *The Officer's Guide*, by The Military Service Publishing Company, and *Officer's Manual*, by Moss. *The Army Officer's Manual*, however, covers material that is largely supplementary to the two "guides" mentioned and includes many of the latest revisions in army regulations and procedure that are useful to the army officer. Many questions that the inexperienced citizen officer naturally would ask are here answered. It is applicable particularly to officers of dismounted branches.

1 1 1

WHAT THE CITIZEN SHOULD KNOW ABOUT MODERN WAR. By Fletcher Pratt. W. W. Norton and Company. New York. Illustrated, 184 pp. \$2.50.

WHAT THE CITIZEN SHOULD KNOW ABOUT THE AIR FORCES. By Lieutenant Colonel Harold E. Hartney. W. W. Norton and Company. New York. Illustrated. 226 pp. \$2.50.

WHAT THE CITIZEN SHOULD KNOW ABOUT THE ARMY ENGINEERS. By Lieutenant Colonel Paul W. Thompson. W. W. Norton and Company. New York. Illustrated. 210 pp. \$2.50.

These three informative books recently have been added to the *Citizen's Series*. In this case, however, they were written by well known authors. The books consequently reflect their greater experience. Remember the others? *What the Citizen Should Know About The Army; The Navy; The Coast Guard; The Merchant Marine; Civilian Defense; Our Arms and Weapons; and The Marines.*

It might be added truthfully that our men in the service, also, could well spend their spare time in broadening their knowledge of these subjects by a perusal of these interesting and timely books. Every military library should include this series!

1 1 1

WAR AND NATIONAL POLICY. A Syllabus, Edited by Grayson Kirk and Richard Poate Stebbins. Farrar and Rinehart, Inc. New York. 1942. 131 pp. \$1.00.

It has become increasingly plain that totalitarian war and defense preparations by the non-totalitarian nations are phenomena which must be given recognition in courses in American universities and colleges.

This course syllabus is the result of the research and study of specialists within and without Columbia University combined with the Institute for Advanced Study, and is now offered in the belief that it will be useful to other colleges and universities.

The copy for this syllabus was completed during the summer of 1941, but it has added value and interest now that the United States has been forced into a condition of full belligerency.

1 1 1

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After the World War armistice, General Pershing started the custom of genial inspections, mingling with the men. He was a bit green at it—after a year and more of unbending and terrifying surveys of his troops. He was easily nonplused, therefore, and one unexpected reply from a thrice-wounded soldier cramped his style for the rest of the day. He had put his hand, friendly-like, on the old warrior's shoulder and said kindly, "Sergeant, where did you get those three wound stripes?" The soldier looked him squarely in the eye and replied, "From the *supply sergeant*, Sir."

*He was wont to speak plain and to the purpose, like an honest man and a soldier—Julius Caesar, III.*

Rubber seems to be scarce everywhere but in the neck.

Necessity sometimes is also the mother of intervention.

Slogan for Stalin: KEEP 'EM FLEEING!

In this war we at least have had enough of *over-prediction*.

## Quizitis?

SELECTEE: "Doctor, what is it that I feel—gastritis, arthritis, neuritis or laminitis? Guess three out of four!"

"What's the last word in airplanes?"  
"Jump!"

GUIDE: "We are now passing the most famous brewery in Milwaukee."

TROOPER: (Bailing out of the bus) "I'm not!"

"—a toast to the JAP navy!"  
BOTTOMS UP!!!

WHOOPER: "I wish the Lord had made me a man!"

TROOPER: "He did—I'm he!"

TROOPER: "I suppose you dance?"

HOSTESS: "Oh, yes, I love to."

TROOPER: "Fine—that's better'n dancing."

## Pay Day

TROOP BARBER: "Well, Trooper, how 'bout a shampoo?"

TROOPER: "Listen, Jerk, I'm in this war all out! Cut the *sham*, but gimme all the *poo* ya got—I wanna sling it at the Japs!"

"Say, Post Baker, aren't you making your rolls a little larger these days?"

"Rolls? Say, howdoyergetthatsuch, Them's loaves."

The real trouble with many who think that they have a hard row to hoe is—they don't like to hoe.

The only difference between meddling and investigating is that *we* always investigate—the other fellow meddles.

It's a good horse that never stumbles. The fault is not in stumbling, but in *stumbling* twice at the same place.

*Don't kill time, kill the enemy! ♣!*

TROOPER I: "What sort of a guy is your platoon sergeant?"

TROOPER II: "He's a horsey gent who gets in my hair, and when he does I have an uncontrollable obsessed desire for a horse-clipper haircut."

It takes the truth a long while to catch up with a rumor.

*Troopers and pins are useless when they lose their heads.*

What is whispered usually does a lot more damage than what is shouted.

*Great things happen when energy gets chummy with enterprise.*

## A Joke's a Joke for all that—

Whether you call your wise-cracks "Spark Plugs," "Gas Fumes," "Hossplay," "Horse Scents," "Hosstaes," "Hoss Gags," "Hossy Gibes," "Horseclippings," "Hoss-laffs," "Horse Chestnuts," or "Jus' Hossin'," send them in anyway. They're probably just plain old fashioned "Horse Feathers"; and if they are, *we'll print them.*



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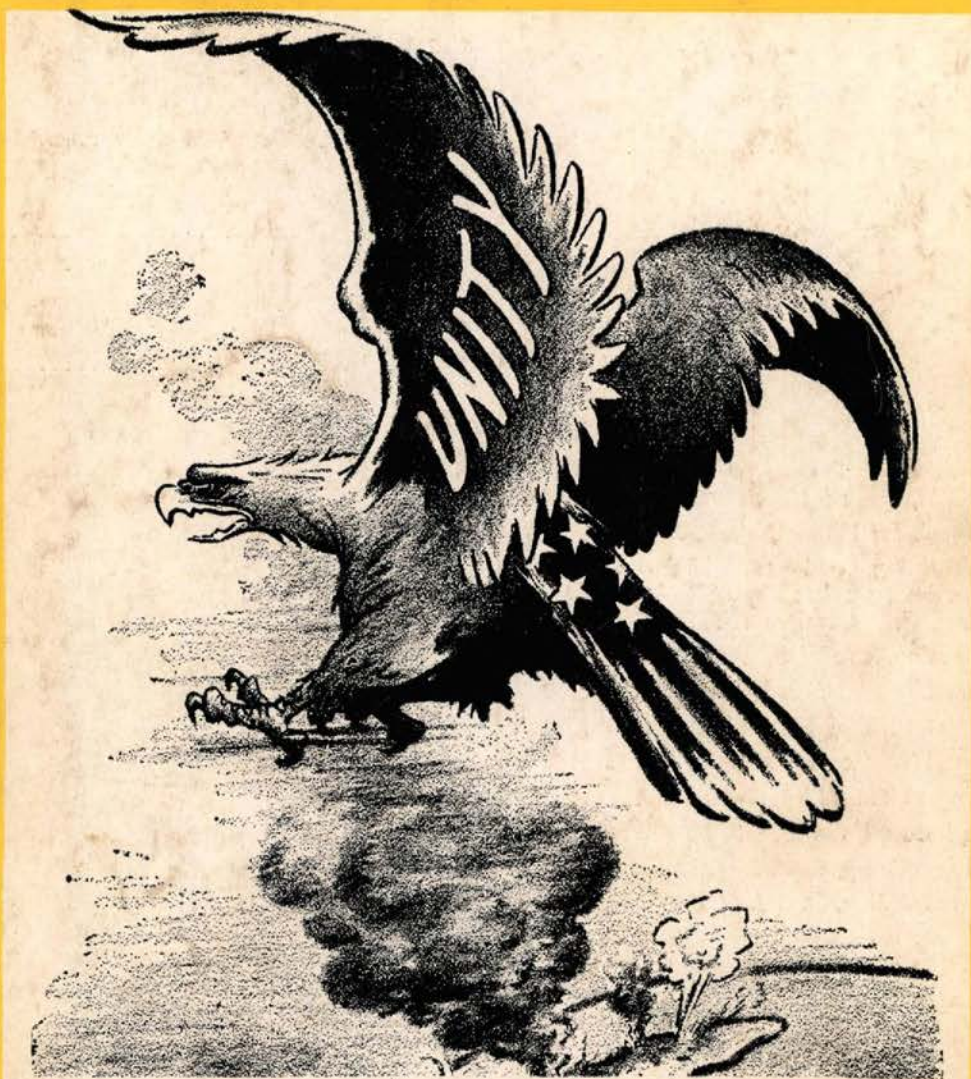
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# THE CAVALRY JOURNAL



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JULY-AUGUST, 1942



# Order Today!

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



## THE STORY OF THE LITTLE BIG HORN CUSTER'S LAST FIGHT

By Colonel W. A. Graham, Judge  
Advocate U. S. Army Retired

Long accepted as the most comprehensive and accurate account of the greatest battle fought between the White Man and the Red, and out of print for many years, the present edition contains some thirty illustrations, including pictures of the leading participants, battlefield scenes, photostatic copies of important documents, several maps, etc., and a reproduction of the defense of General Terry by General Hughes.

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CARDED

# Soviet Cavalry

*By General O. I. Gorodovikov*

EDITOR'S NOTE: This article was wirelessly 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





# *Dry Fights!*

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 obsolescence 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-Napoleon 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 Kremetets against the First German Panzer Army under General Von Kleist. General Kryuchenken covered the bridge-heads 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 Dovator, 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 Gen-

eral 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 cavalymen, 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.*



CARDED

# 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 Izyum-Barvenkovo sectors of the front. Incidentally, the Germans here adopted somewhat modified forms of utilizing tanks. This time their tanks worked in close cooperation 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 anti-

tank 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 de-

\*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.

fense 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 de-

fenses 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



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.





CARD

# 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.

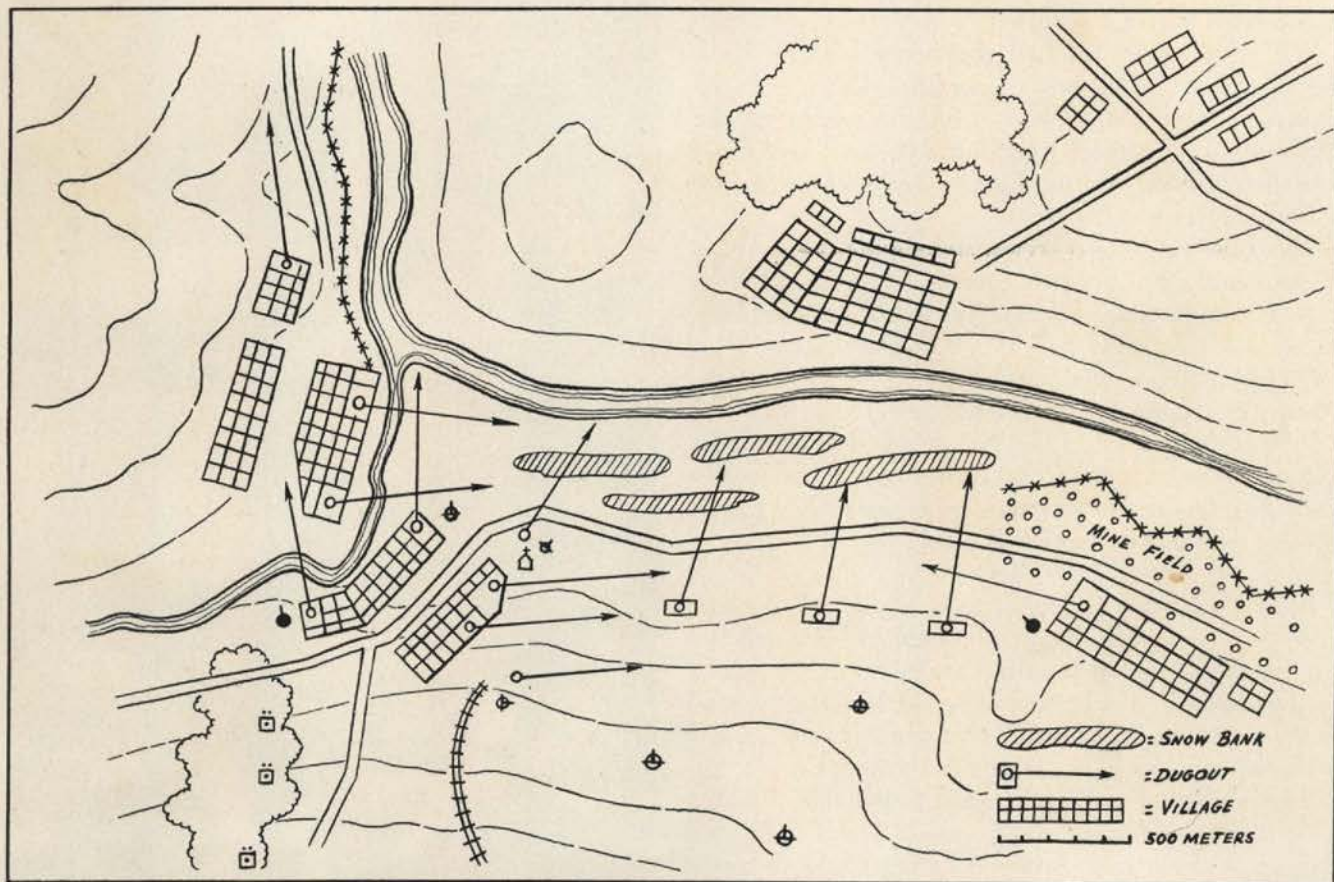
The Germans used all the advantages presented by the village with the church. From this village, situated on a rather high elevation, the river and its bed was well covered by fire to the north as well as to the east. The church, being in front of all the other buildings and of good height, served as 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

\*Red Army.







Red Army men dislodging Germans from a Ukrainian village.

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 explosives.

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 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 blinding.

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 blinding 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

CARDED

*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 carriers advancing to new firing positions on the Crimean Sector.





Soviet junior lieutenant giving Cavalrymen an assignment.

# Soviet Platoon in Action

**F**OLLOWING 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 Ser-

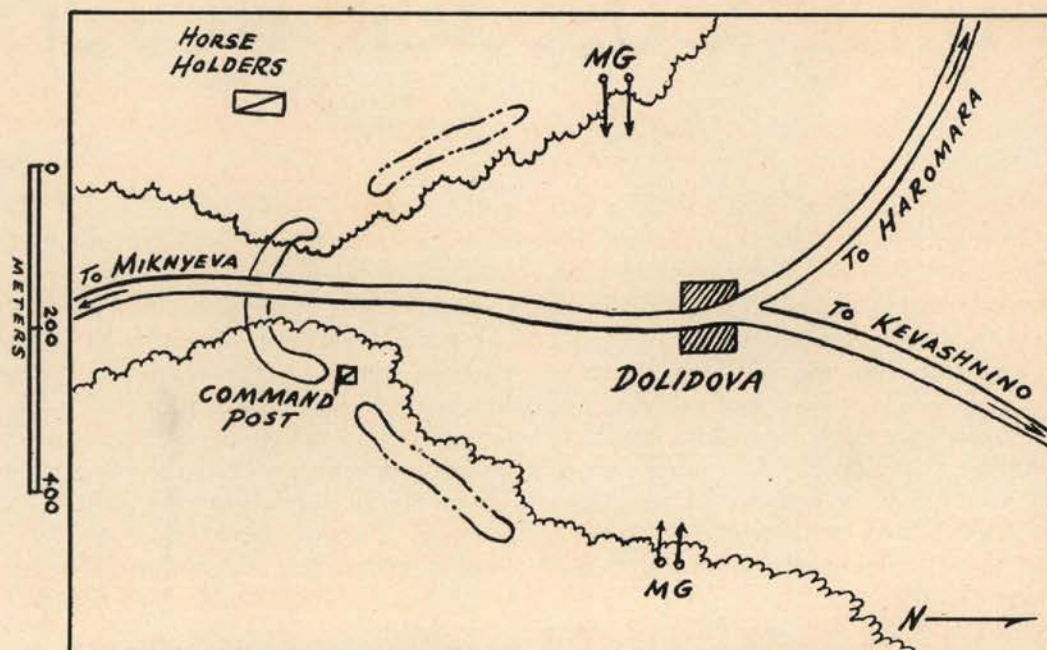
geant "H" stating that he had encountered an enemy force near KEVASHNINO consisting of a troop of *cavalry* and a few tankettes. The German force was reported moving on the road to DOLIDOVA and about eight kilometers north of DOLIDOVA. Lieutenant "K" estimated that the enemy should arrive at his position 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)

CARDED

## Russian Partisan Warfare Coordinated With Red Army

*By Battalion Commissar Volkov*

**R**USSIAN *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 strewn 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 con-

trol 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\*

**T**RAFFIC 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 informa-

tion 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 principal 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 manoeuvre 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 tac-

tical 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.

## BOMBARDMENT.

Combined operations of air and ground forces must be closely coordinated. 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

\*I Ground Air Support Command.

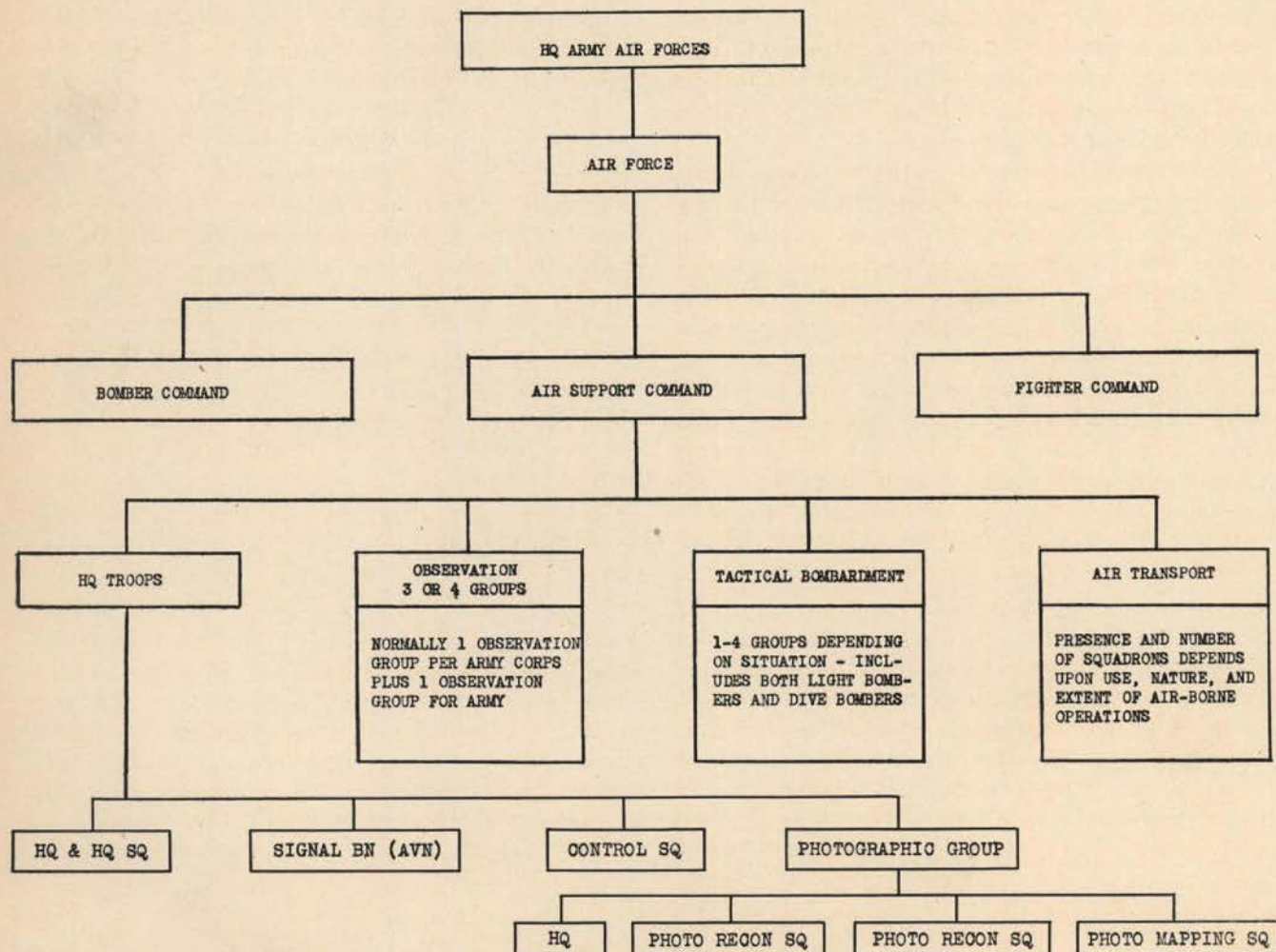


Figure 1: Organization of an Air Support Command.

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.

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.

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 es-

sential 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 aviation 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.

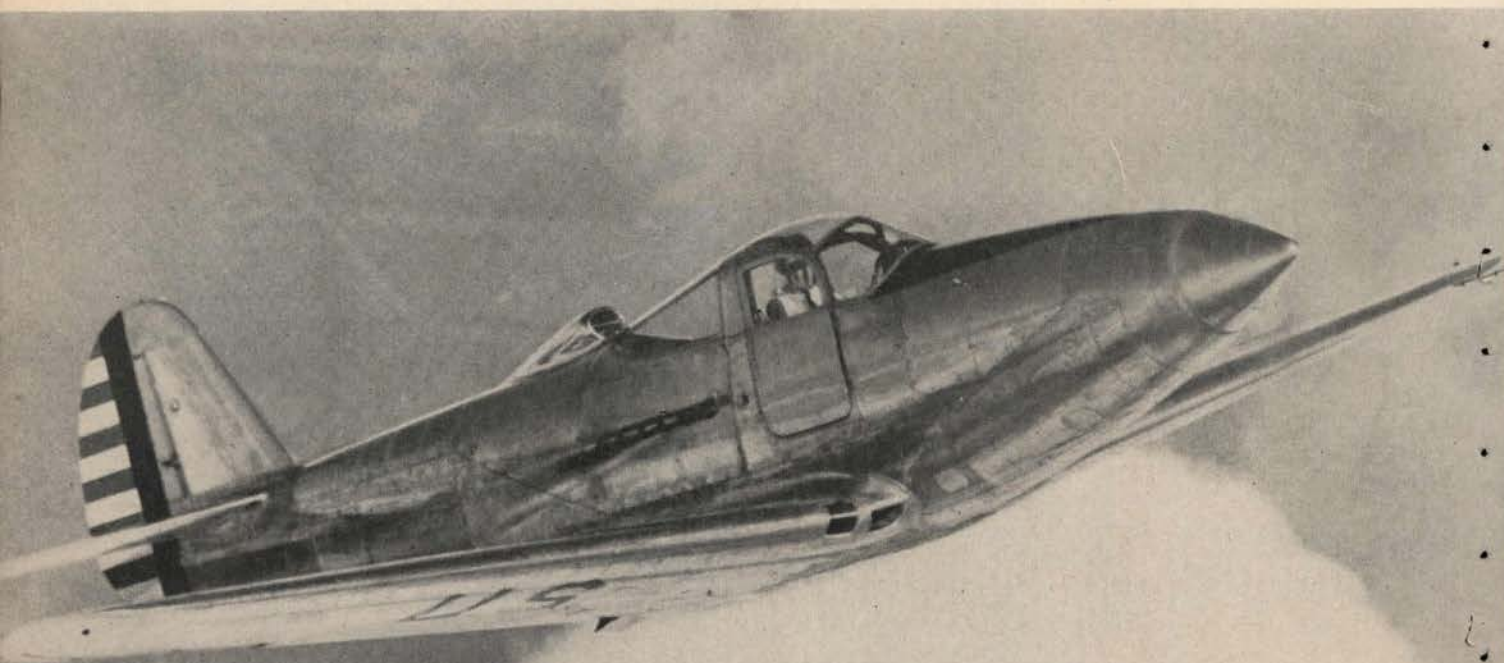
#### AIR TRANSPORT

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

Coördination of the various activities of the air support command with the requirements of the supported ground troops and provision of effective, rapid and con-

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.

tinuous liaison and communication between the air support command and the supported ground troops is, of course, the key to effective air support.

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 coordination 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 coordinated 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 cooperate 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.



CAPDED

# 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.

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,

\*A translation from General Sun Tzu.

\*\*All indented paragraphs are notes by the translator.





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 relative 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.



# Editorial Comment



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 cooperation, 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.

1 1 1

## 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.

1 1 1

### 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!"

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### 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!

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### 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.

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### 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



# General Hawkins' Notes

A FEW years ago the pseudo military experts were Avociferous 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 cooperation 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*

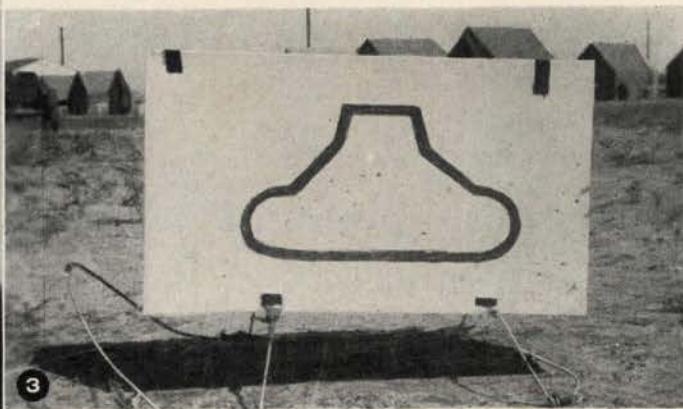
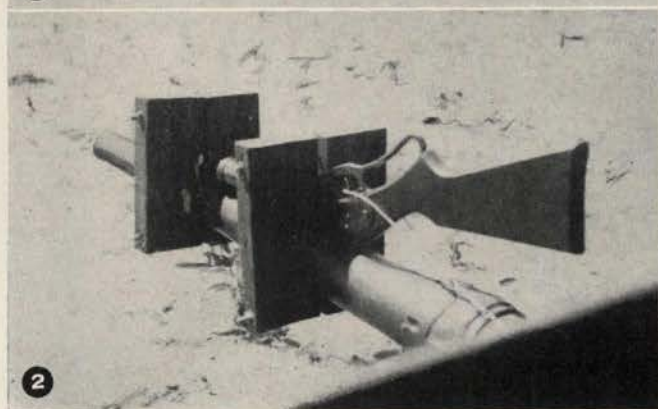
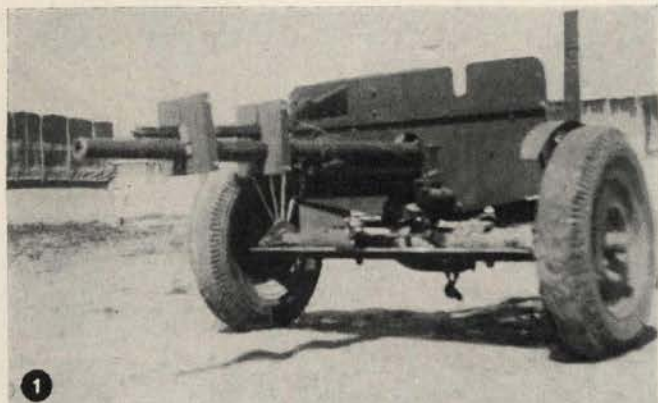
THE air-rifle tracking-training mount here described is best employed as a step preliminary to sub-caliber ball ammunition firing. It can be used in troop training areas, requires little supervision by commissioned officers, and makes the initial aiming, traversing and ele-

vating 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 Martín, 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.

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

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.

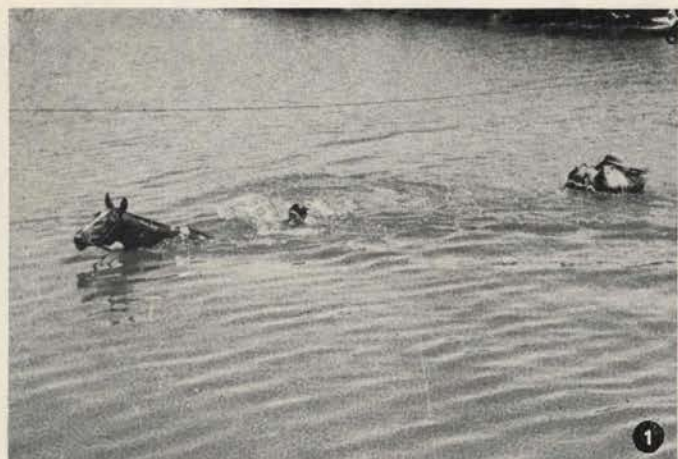
And so the modern Argentine cavalry lacks neither a glorious tradition nor personnel of a high order, since as we have seen, this country has an inexhaustible source of born horsemen, who love danger for its own sake and are inured to hardships of life in the field, with its adventures, its vigils, and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

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



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, Güemes with his famous *gauchos*, etc., all of them possessed of personal courage verging on rashness, bold and fearless in the irresistible 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 "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 Ionic 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 Balearic 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 diphthongs, 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 littoral 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-Provençal 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 miniature 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.

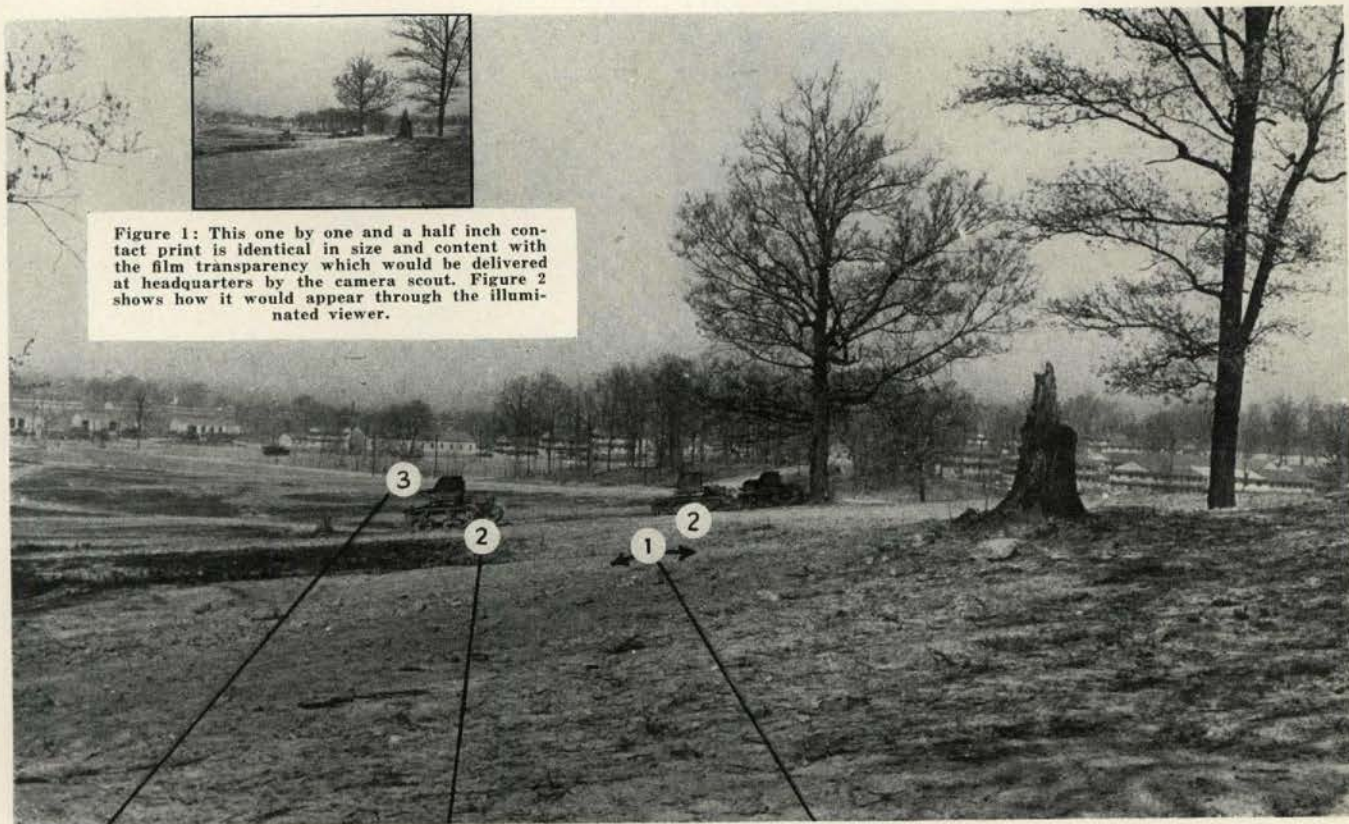
In numerous cases photographs will provide the commander of a large unit with his best substitute for personal reconnaissance.

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.





INTERSECTION — 1,000  
YARDS FROM CAMERA

③

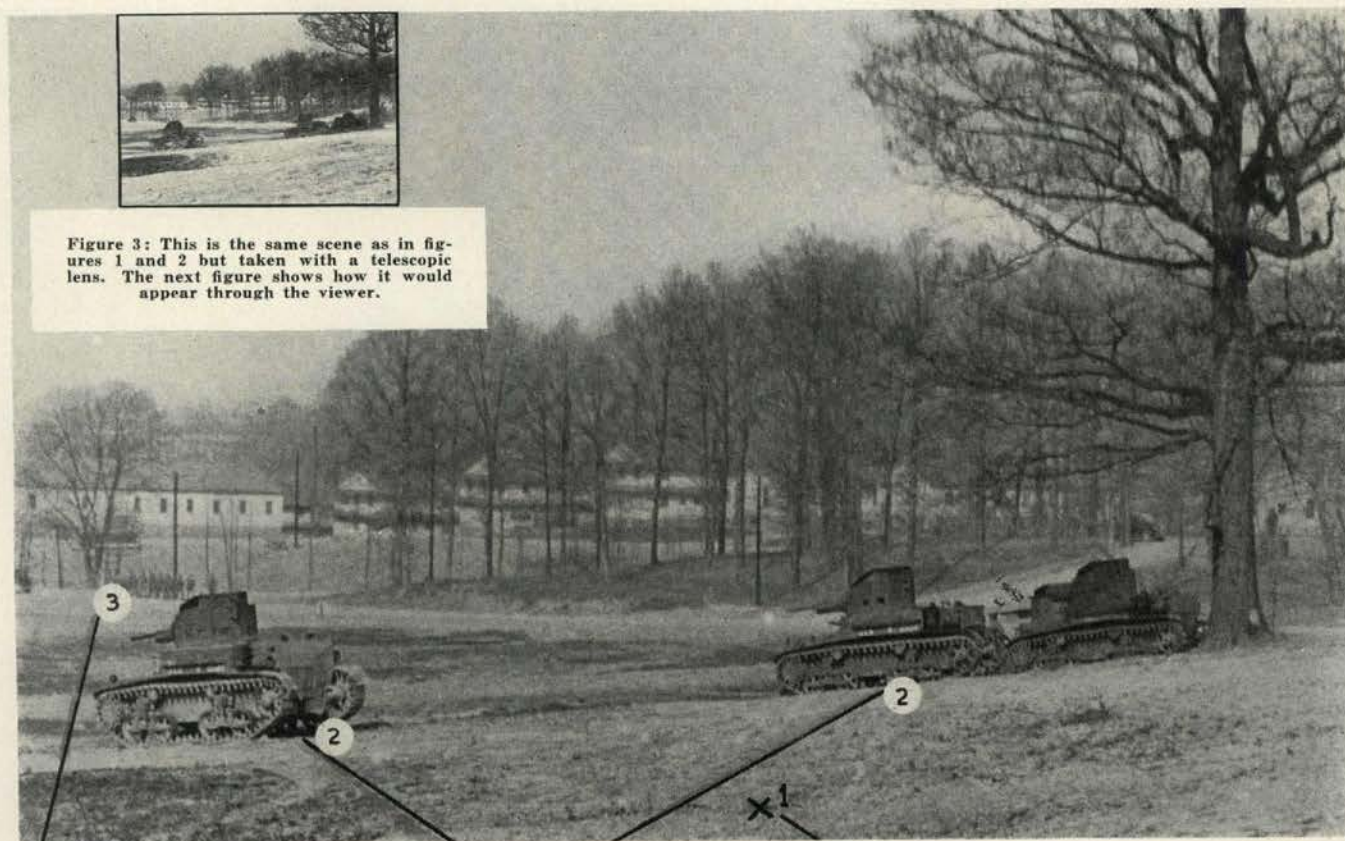
TANKS—150 YARDS  
FROM CAMERA

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.



1,000 YARDS FROM CAMERA    150-175 YARDS FROM CAMERA    50 YARDS FROM CAMERA

③

②

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.



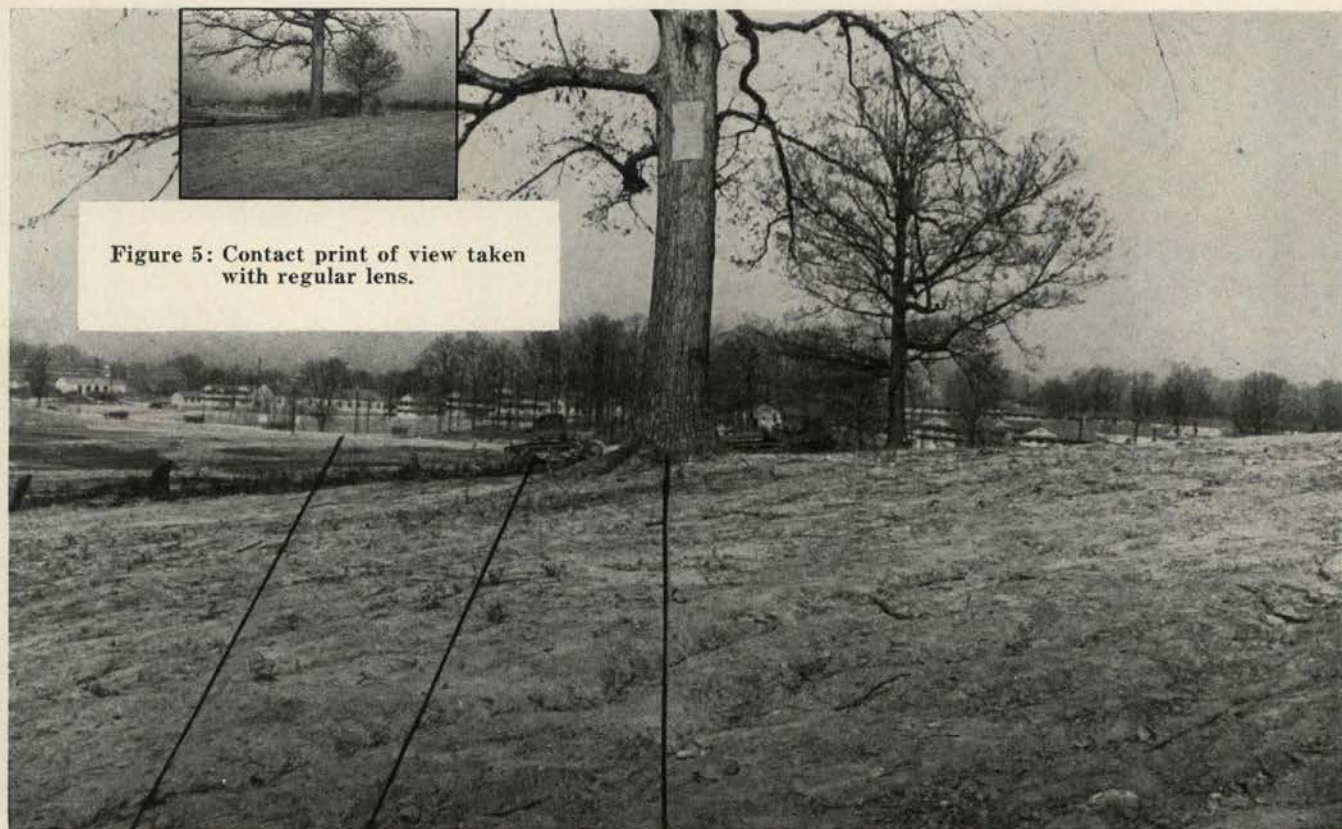


Figure 5: Contact print of view taken with regular lens.

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.

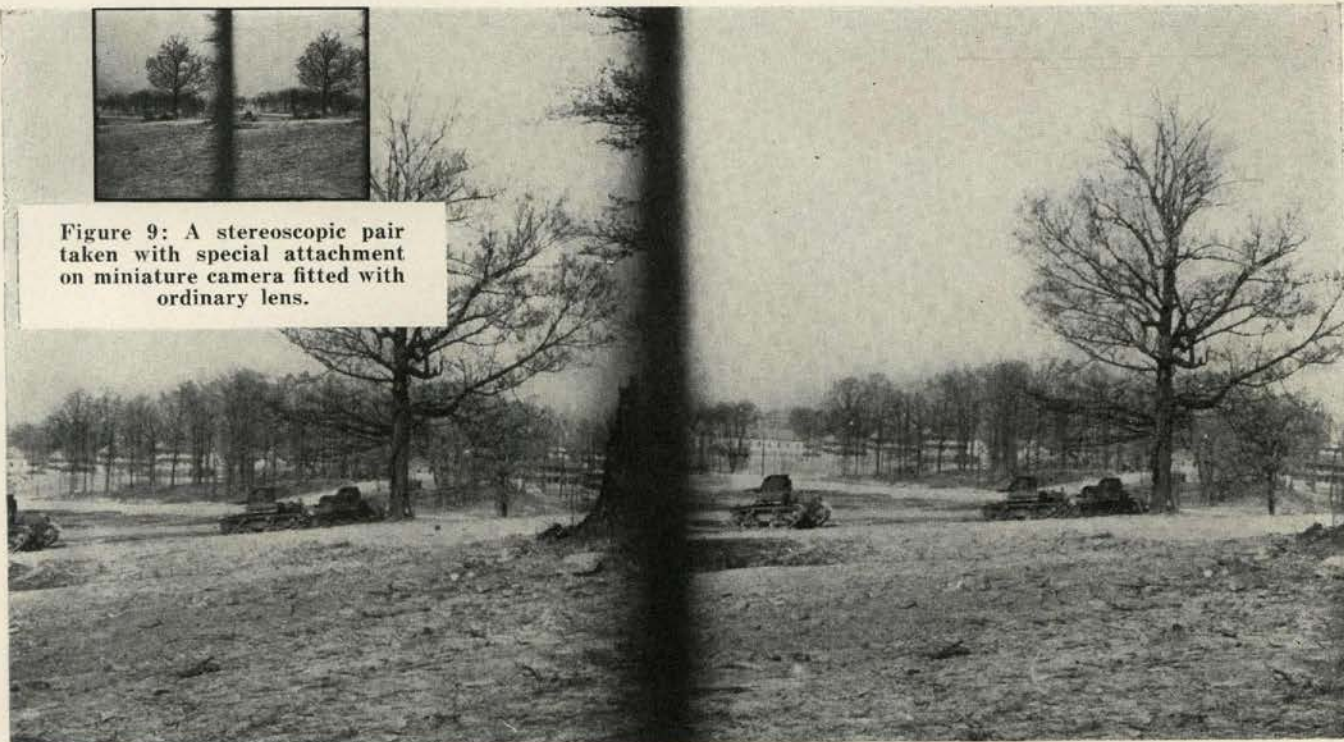


Figure 10: A stereoscopic pair. Viewed through an enlarging viewer this would appear as an enlarged, three dimensional photograph.

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.

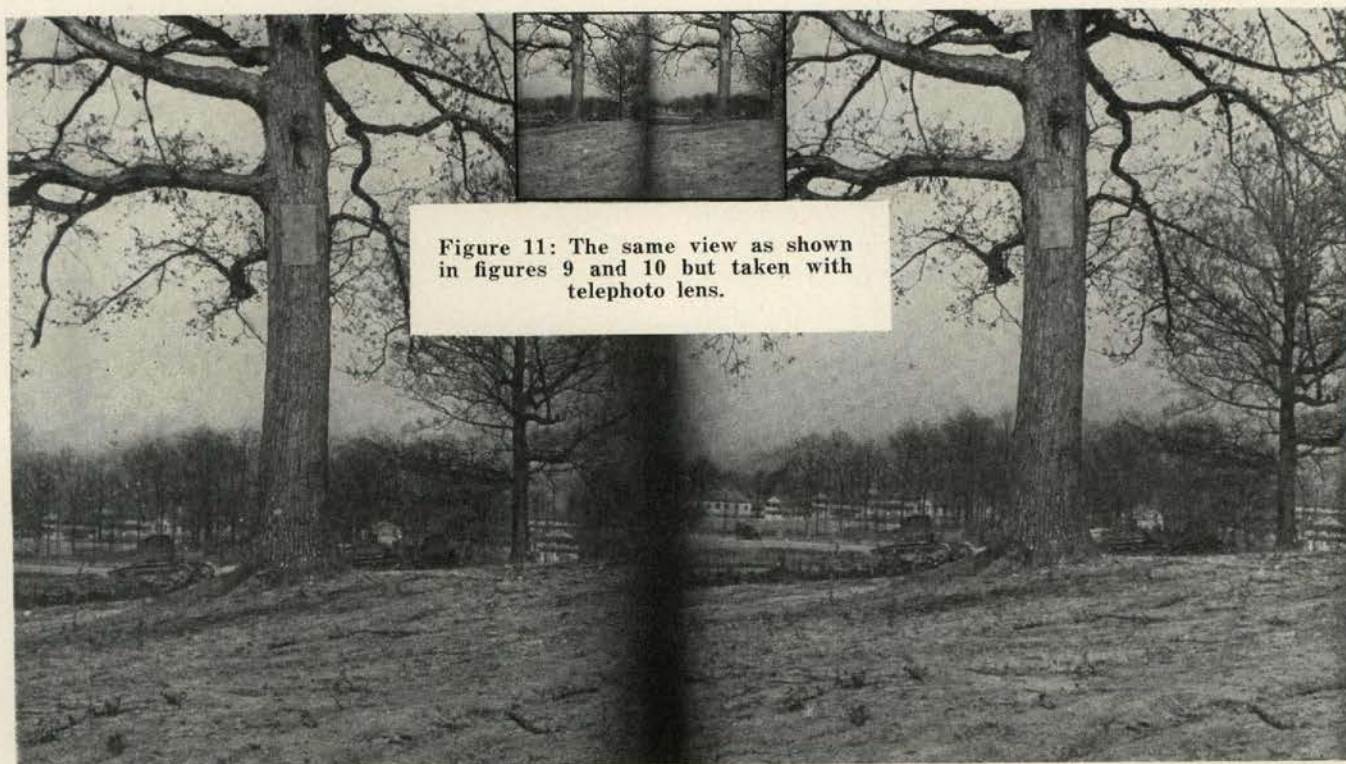


Figure 12: Stereoscopic pair taken with telephoto lens.



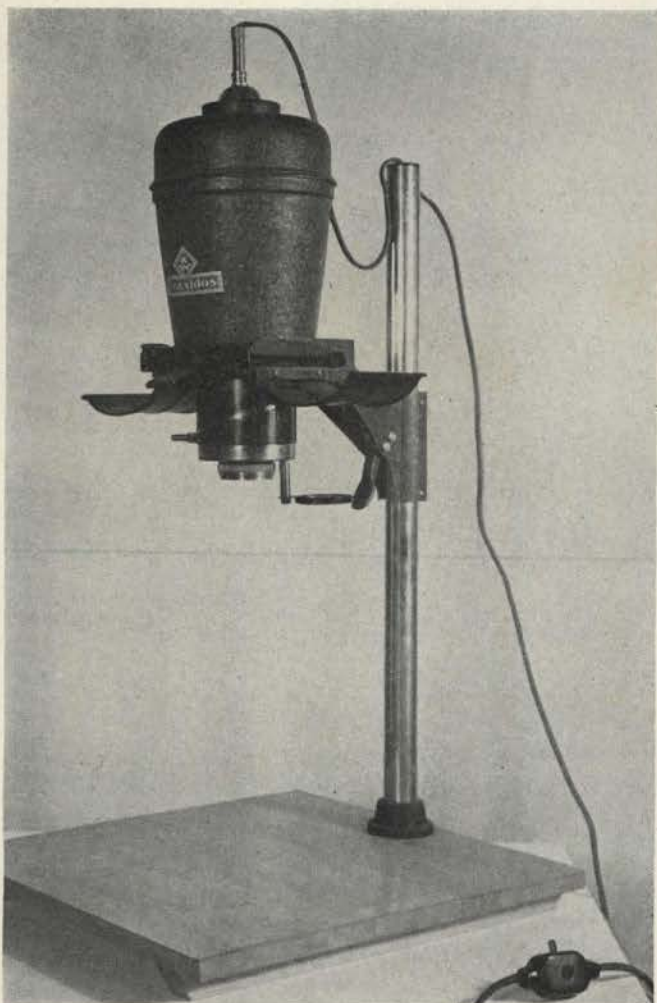


Figure 13: This is the enlarging printer used when prints are desired. Together with all necessary accessories and materials it could be packed in a foot locker. A dark-room tent would be needed.

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

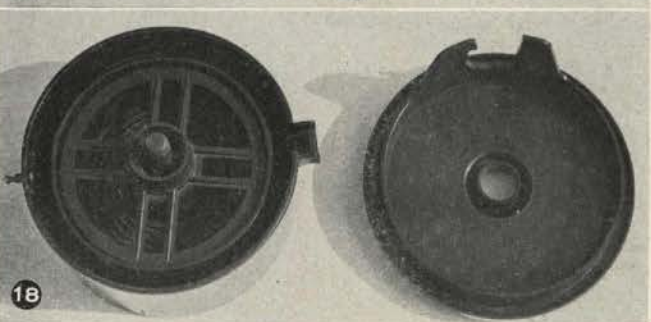
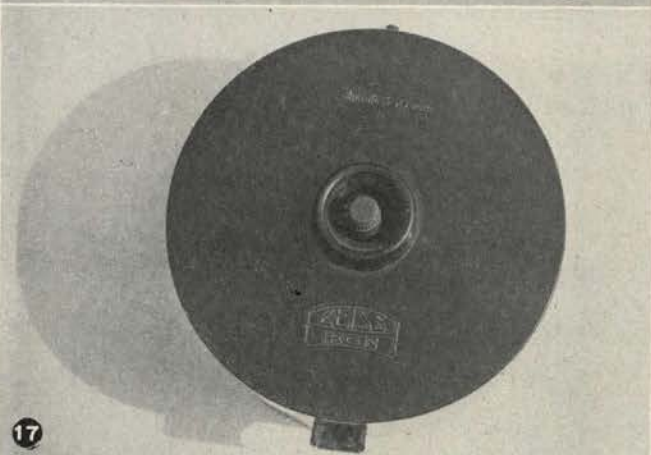
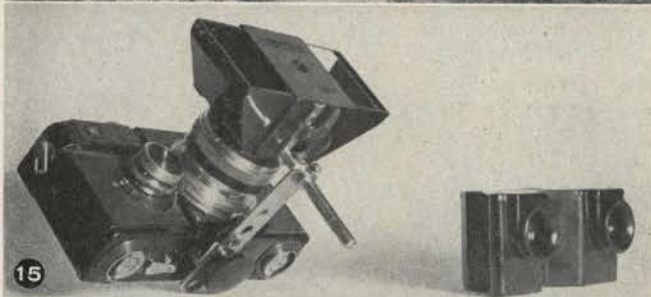


Figure 14: This is the camera in action with ordinary lens. Under combat conditions principals of scouting and patrolling with proper use of cover would apply. Note small size of camera.

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.



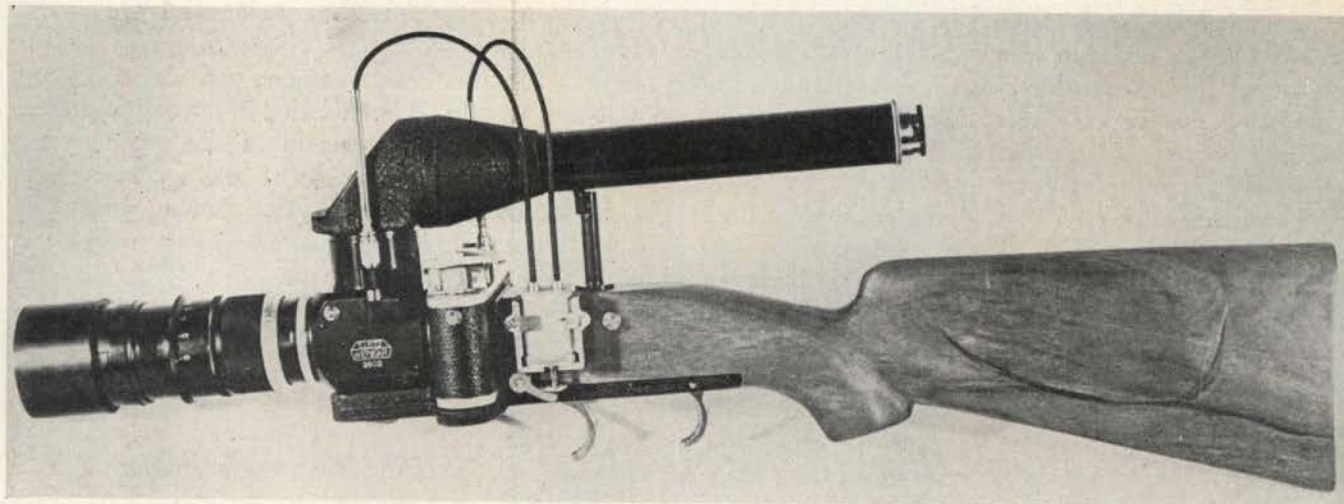


Figure 19: This is the camera gun fitted with the 135 millimeter telephoto lens.

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 de-

veloping 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

**M**EN 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.

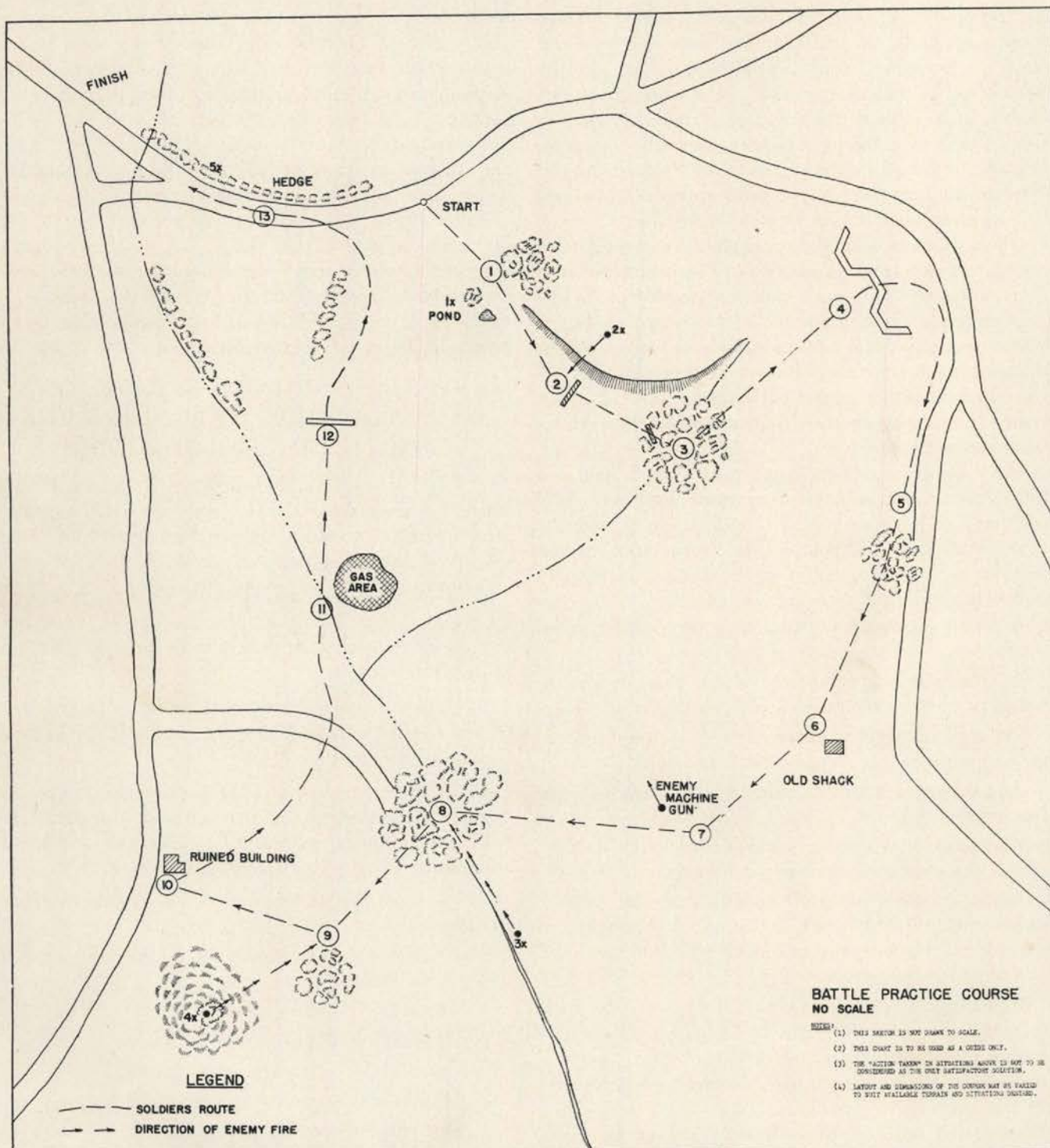


6. "You and your patrol will be expected to solve each situation as it is presented to you.

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 thicker, 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.





RECORDED

# 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.

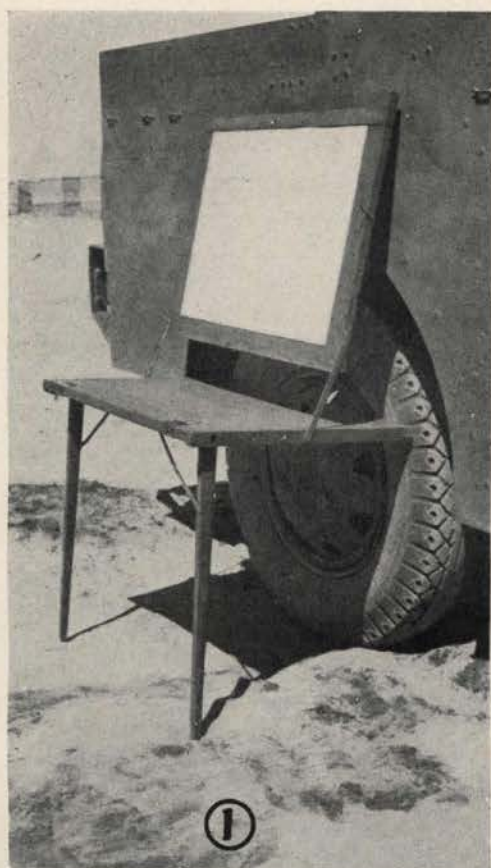
When not in use, the table folds into a compact displacement of only 30" x 24" x 3", but in a matter of a few seconds can be attached, opened and ready for work. Beneath the table and behind the map board are built-in cabinets to accommodate over twenty-five Map Quadrangles without undue mussing and 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  $\frac{3}{4}$ " x  $1\frac{3}{4}$ " mold strip.

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

\*Headquarters, 12th Cavalry.





# MAP MOUNT

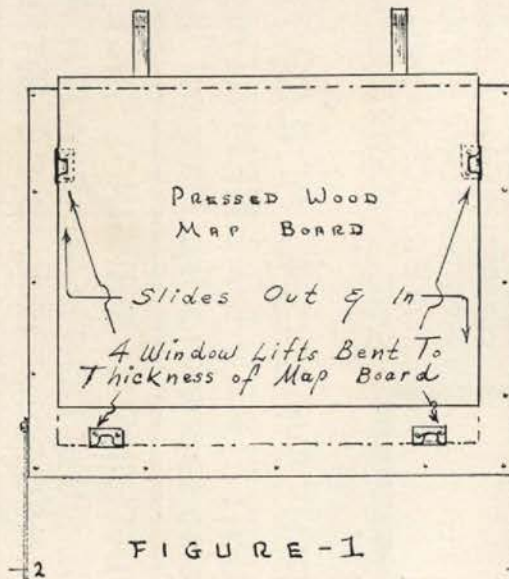


FIGURE-1  
FRONT VIEW

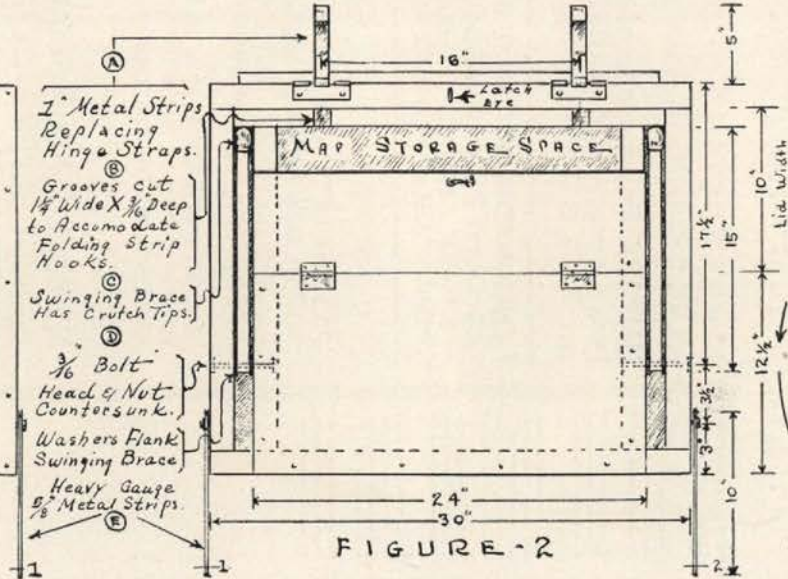


FIGURE-2  
REAR VIEW

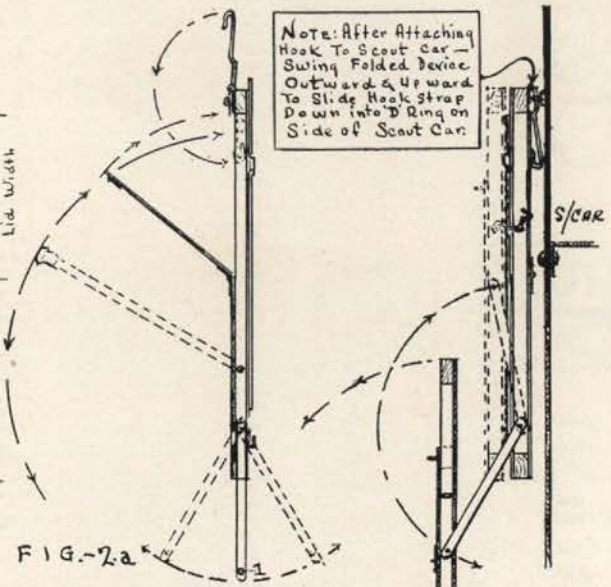


FIG-2a

R. SIDE VIEW

L. SIDE VIEW  
Showing Combined Units & Manner of Attachment to Side of Scout Car.

FIG-3

# WORK TABLE

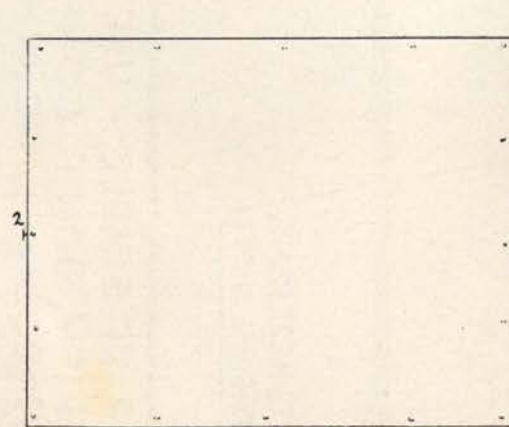


FIGURE-4  
TOP VIEW

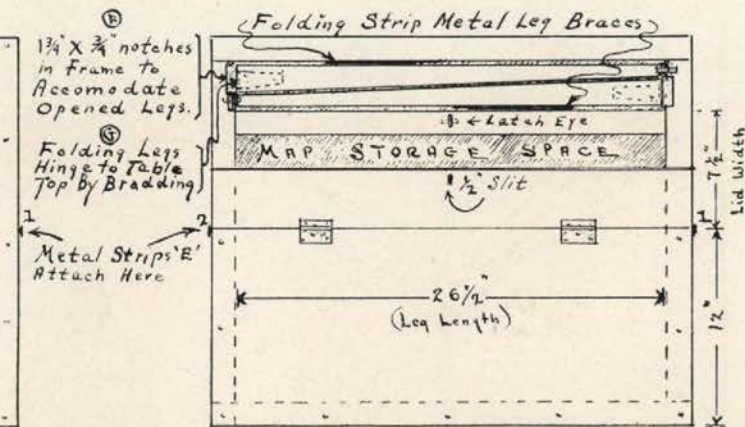


FIGURE-5  
BOTTOM VIEW

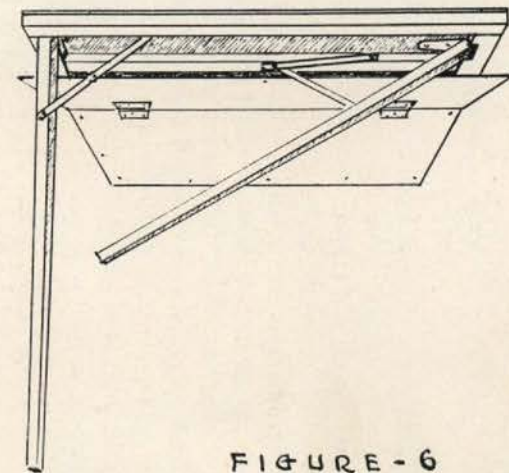


FIGURE-6  
LEG ATTACHMENT



CARDED

# Keeping the Situation Map Clear

By Lieutenant Robert B. Rigg, 106th Cavalry

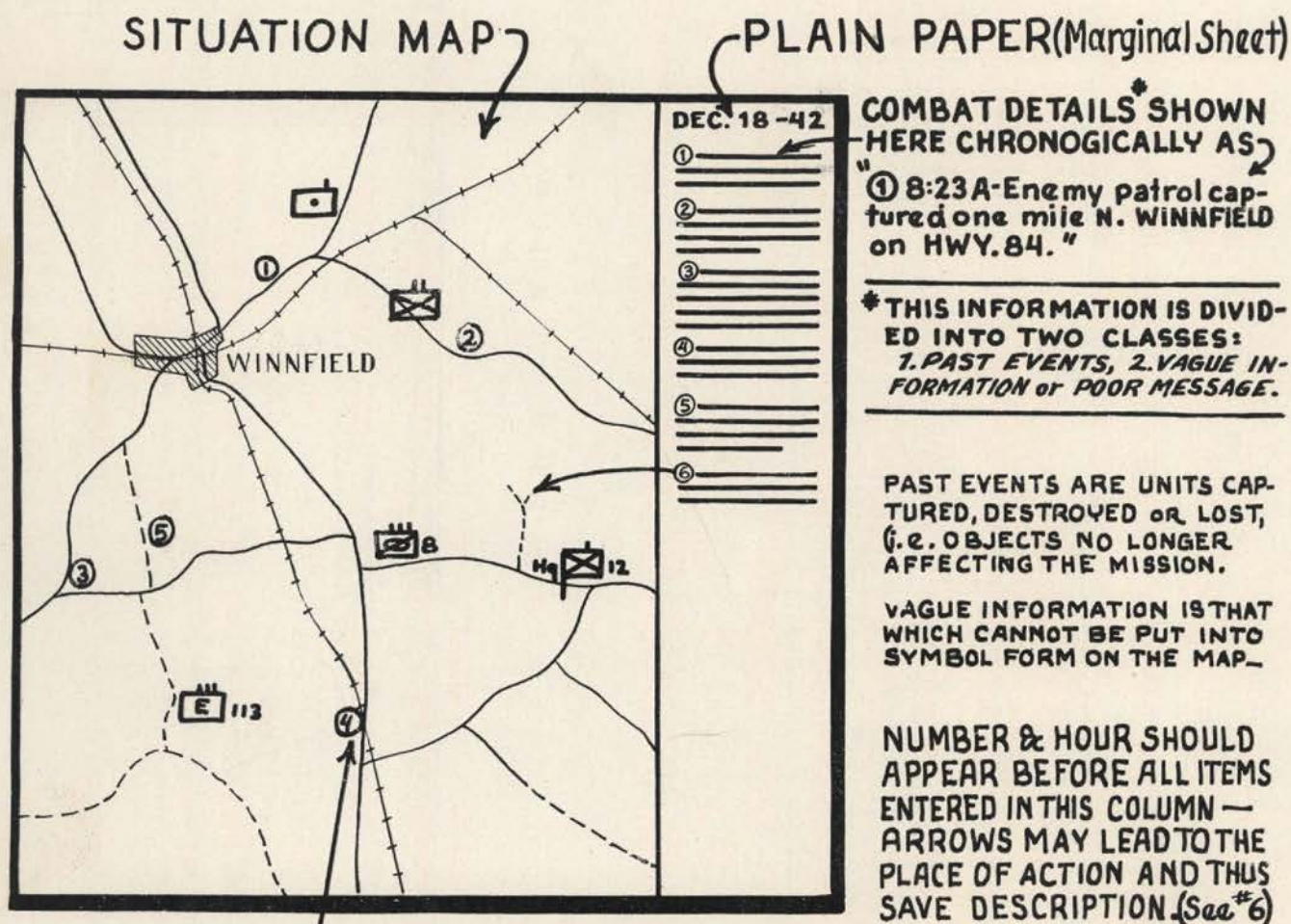
THE situation map should NOT be devoted to the history of an operation, but to the future of it. Therefore, do not regard enemy units captured or destroyed as important items to go on the situation map. Apply only the enemy units which are functioning—these are the ones which can affect your mission.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



KEEP IT SIMPLE - USE ABBREVIATIONS IN MARGINAL SHEET. CLARIFY, DON'T CONFUSE. USE QUESTION MARKS WITH A SYMBOL or LINE WHEN THE INFORMATION IS DOUBTFUL.



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.

#### 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) Foo" 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 \_\_\_\_\_

[illegible]



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.



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



Bentley.  
Come on. Big Village.  
Be quick. Bring Packs.  
P.S. Bring Packs  
W.W. Cooke

Bentley  
Come on. Big  
Village. Bring  
Packs.  
W.W. Cooke  
Bring Packs.

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*

**T**WENTY 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.)



as it was true, they knew just what  
 though long before trial. I was close enough  
 that as I could be, or any testimony  
 possibly looked like a too high flying  
 up own side to have much laboring  
 those unacquainted with me I almost regretted  
 I was not allowed to turn loose on Custer,  
 will bow in humility at the great ones  
 at West Point, and - if it makes better of  
 the mess of them, why the necessity of  
 purchasing the facts are out of their idol?  
 the J.P. Law, in which I had a recent letter in  
 Mike Sheridan, Genl. S. and my old Galah  
 will, May 23. But - I do for other Galah  
 Price? I keep up yr. letter of the same  
 is so well. worked - I give him a Galah  
 up for me. If you know the article I  
 will send it to you. Kind regards  
 from all of us to your family. I will  
 the notes. Truly, Yrs. Benteen

My Dear Price,  
 Yr. note of the 25th came  
 along to-day. I do not know of the  
 Doll. They are exquisite. I made for the  
 They are the shadows of two nice young  
 folks. Bless young people! I also got  
 the copy of the "Mudaw" paper you  
 us. (Dorsey's) and a nice paper to, too. The  
 review of the "Digger's" book was well, my  
 nice thought, - and I liked it much.  
 I send you the note you  
 request, as I have no use for it.  
 I heard not a criticism in  
 the papers of my address in New York.  
 The "Liberator" has written me since that  
 it was wholly satisfactory to many peo-  
 ple, which of necessity it must have been.

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.)



Philadelphia March 13<sup>th</sup> 1877

This is the order sent by General Geo. A. Custer just before his fatal charge on the Little Big Horn River Montana June 25<sup>th</sup> 1876 to Col. Fred W. Benteen, who commanded the third column of the Seventh Cavalry.

It was hurriedly written by Custer's Adjutant, Col. W. W. Cooke, while in the park under the last communication of any kind received from that warrior or his command.

The undersigned received it March 14<sup>th</sup> from Col. Benteen himself, who has twice since the period on his own hand at the top of the paper.

Robert Newton Price

Moral: It is not healthy to attempt to attack 15,000 men, with 300, even if they are Indians.

Philadelphia March 14<sup>th</sup> 1877

This frame contains the last communication received from General George A. Custer to his command. It is the order written by his direction, by Col. W. W. Cooke, his Adjutant, while in the saddle, just before the fatal charge which annihilated the command at the battle of the Little Big Horn River, Montana, June 25<sup>th</sup> 1876.

The last official duty was before the Court of Inquiry which investigated, and exonerated Col. Reno from charges against his conduct at this battle, held in Chicago January 1879 and presented to the subscribers by Col. Fred W. Benteen, commanding one of the columns of the Regiment, to whom it was sent, and in whose possession it was retained until given to Robert Newton Price.

Col Benteen has transferred the handwriting on his own hand at the top of the sheet.

R. N. P.

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 Battrn. 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, papposes, 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 BENTEN.



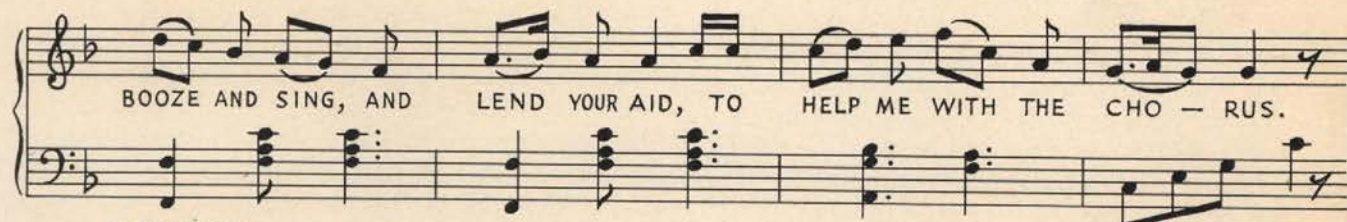
One of the biggest lessons to come out of the war on the Eastern Front—and one which has not yet received due recognition over here—is that horse cavalry is still a potent weapon when used in force.



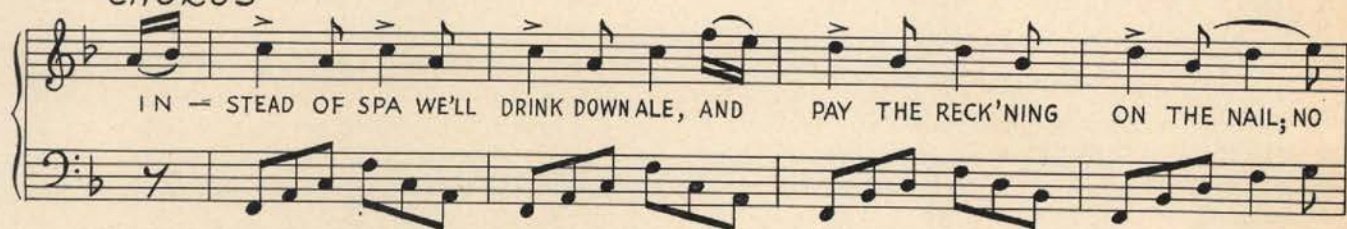
# GARRY OWEN\*

Regimental Battle Song of Seventh U. S. Cavalry Regiment

LIVELY



CHORUS



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<sup>2</sup> 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.

<sup>2</sup>"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."<sup>a</sup>

## 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,

<sup>a</sup>"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 pantomime-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: Minstrelsy of Ireland, p. 296. Brown and Moffat: Characteristic Songs, etc., p. 42. Bergreen: Folks-Sange og Medodier, Vol. IV, No. 35.

Through billows of woe, and beams of joy,  
The same as he look'd when he left the shore.<sup>4</sup>

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:<sup>5</sup>

"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

<sup>4</sup>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.)

<sup>5</sup>See Illustrated Review of the 7th U. S. Cavalry, 1910.



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:<sup>6</sup>

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. Royal 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.

<sup>6</sup>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 cavalymen 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★

**T**HIS 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?

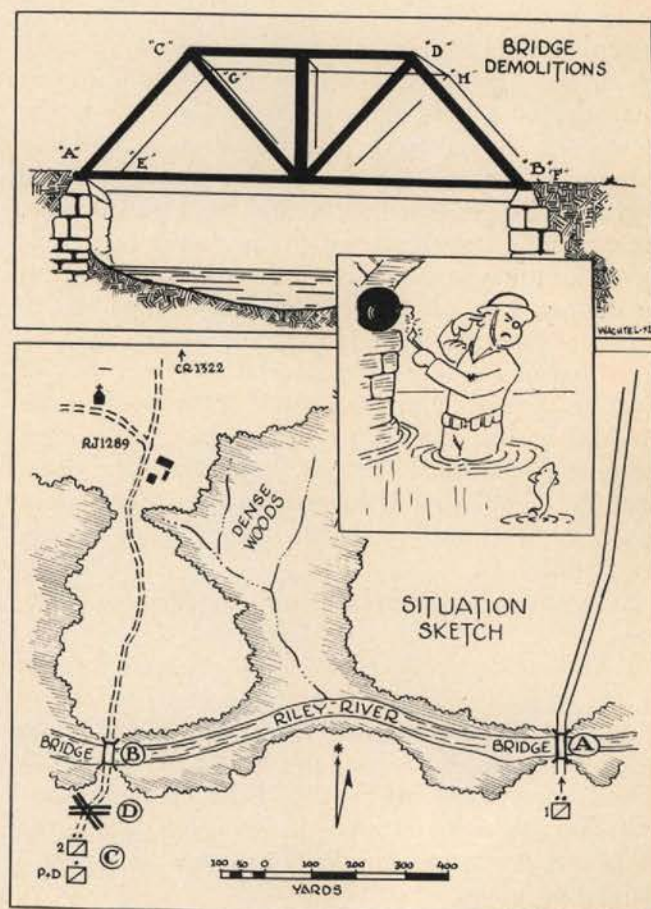
6. The reconnaissance section and the pioneer and

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  $W = 50d \frac{L}{L}$  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):

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

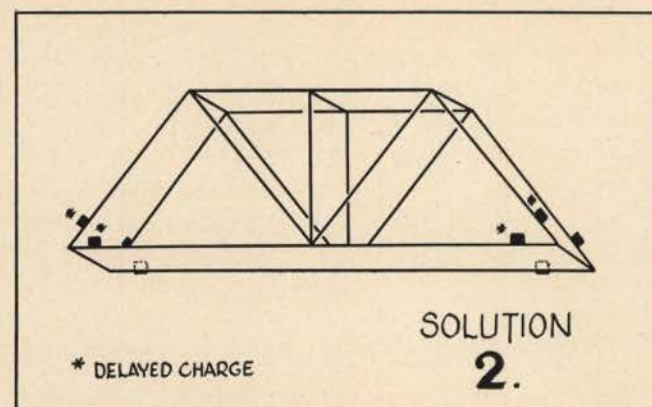
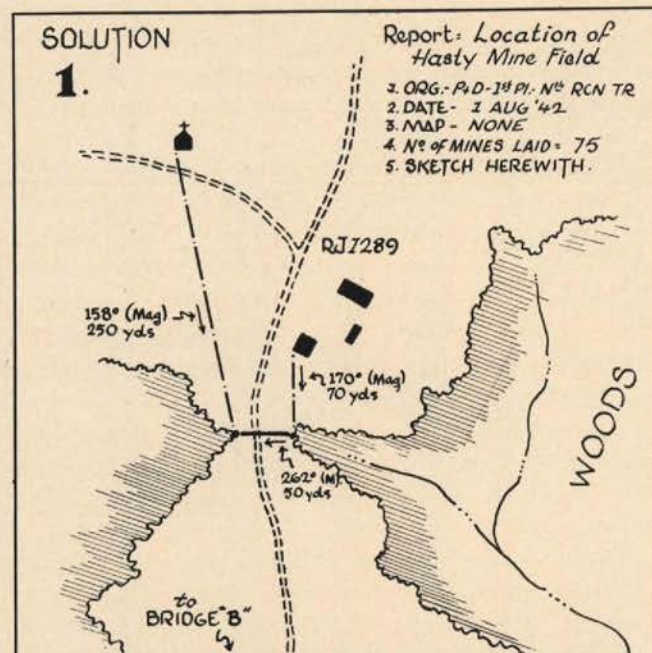
$$W = 50d \frac{L}{L} \text{ (Beams 10" or over and under 14")}$$

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

$W$  = 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 " $N = \frac{3}{4} A$ " from the following, and finds that it will require forty-eight half-pound blocks of TNT to prepare the bridge for demolition:

#### EXPLOSIVE FORMULAS

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

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

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

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

$N$  = the number of  $\frac{1}{2}$ -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 cooperate 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 Ad-

vanced 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

**P**ROOF 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

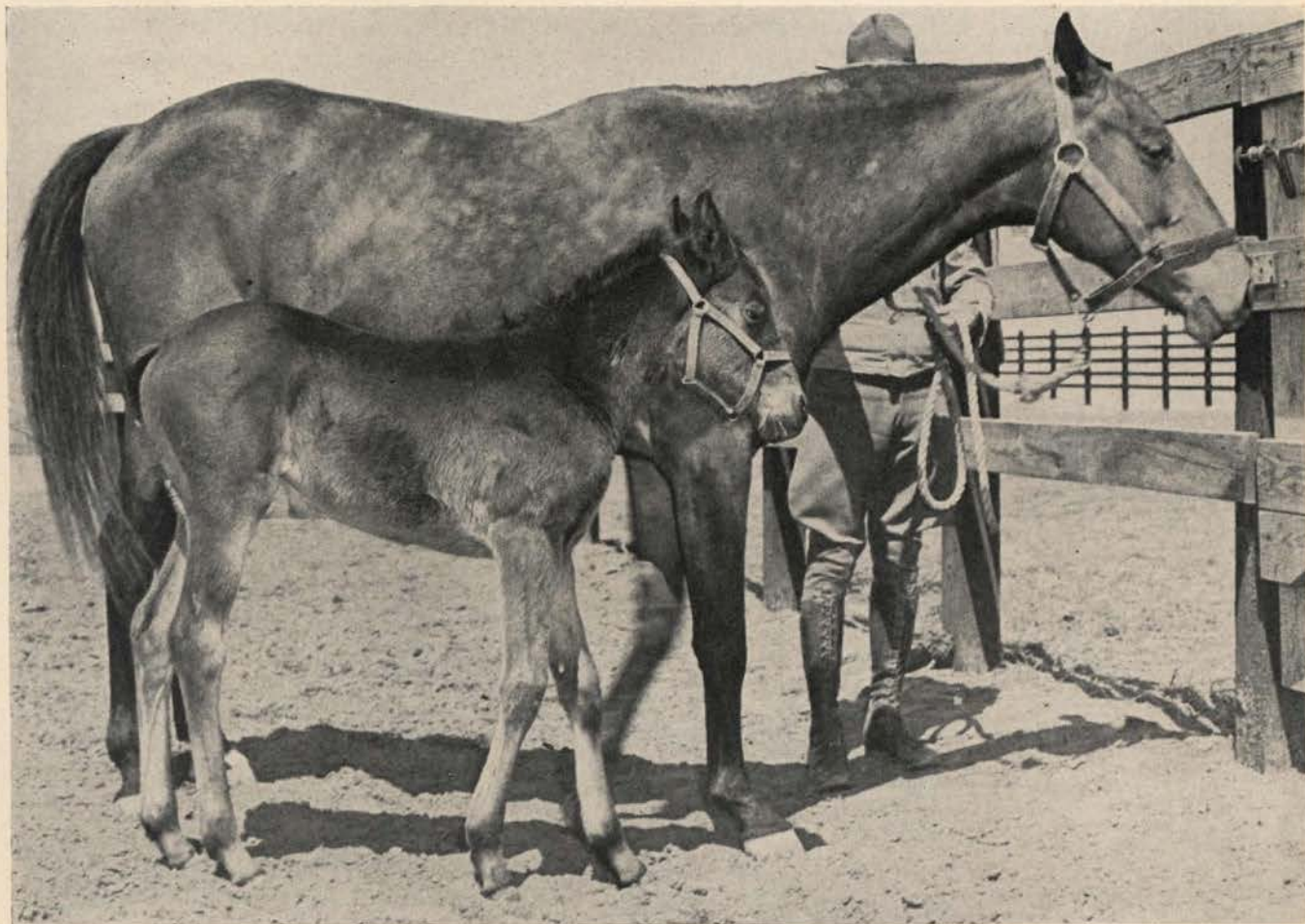
colored horses are generally chosen, with a minimum of white markings.

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 (diphtheria). 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.

**F**OLLOWING 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.

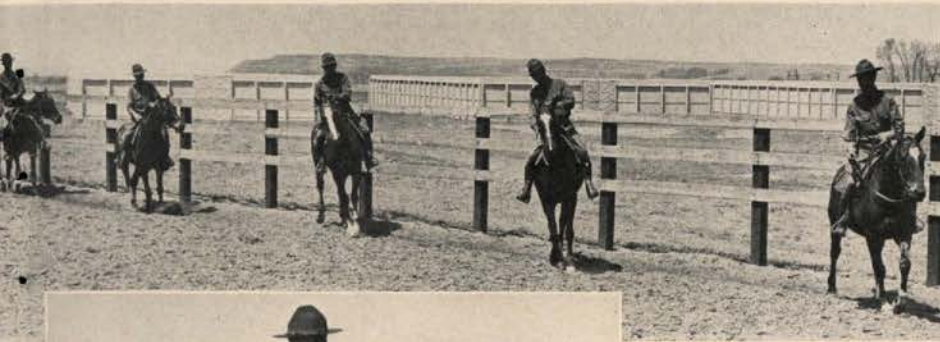
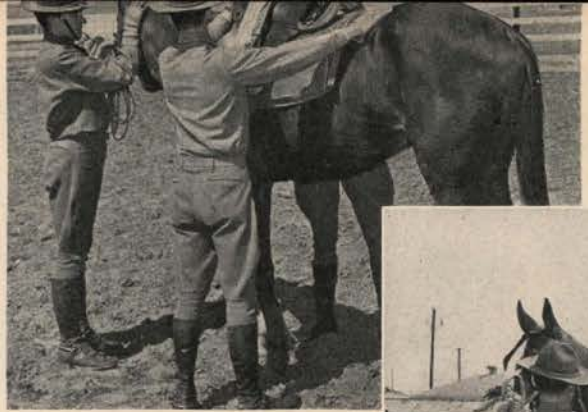
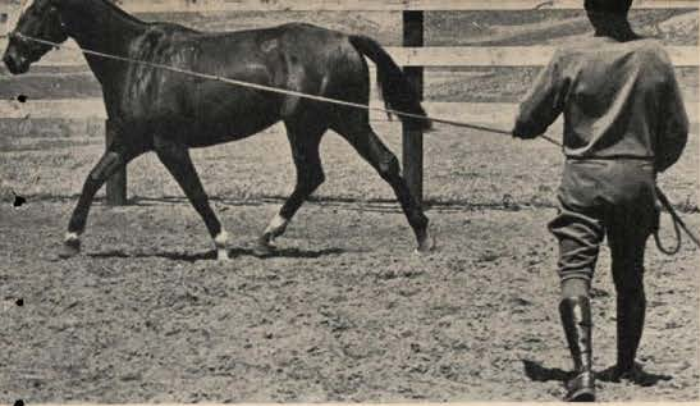






"Bandy" as a "Trainee"—





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

\*Inspector General, Eastern Theater of Operations.



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.



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 repre-

hensible 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 success-



fully 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

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



Barracks and Headquarters Building as seen from the ski jump





### Combat problems

may not be duly enrolled as members of the ROTC.

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 non-commissioned 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 non-commissioned 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 crystallizing 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\**

66 **T**HE 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.

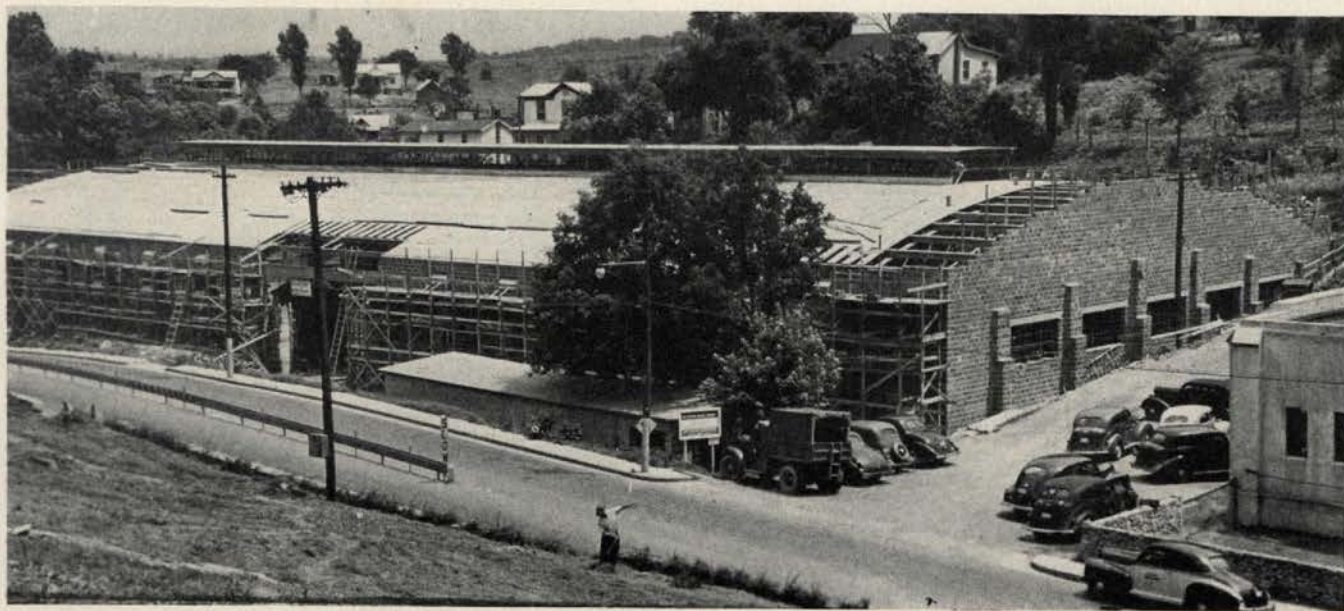
Of this year's graduating class, which was graduated a month ahead of schedule as a contribution to the war

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.

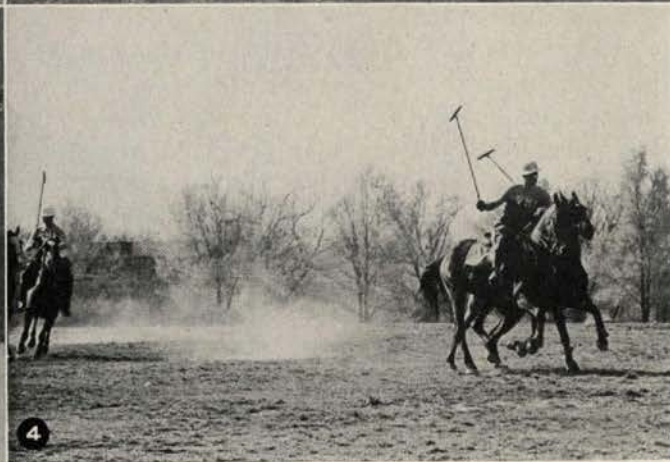
Three arms of the service are represented by the ROTC—Field Artillery, in which about one-half the Corps of Cadets is enrolled; Cavalry, with one-third of the cadets; and Infantry with one-sixth of the cadet Corps. The corps is, for the purposes of drill and administration, organized into a regiment 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 cavalymen, 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 instruc-

tion 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 service-

man 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!"

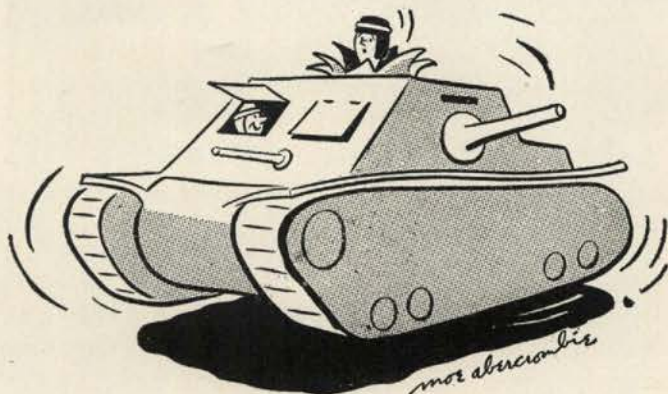
The charge for food at such clubs is nominal. At the one described above, an evening dinner of soup, steak and vegetables, raspberry custard tart, coffee, rolls and butter, costs service men only 20 cents in American money. A night's lodging on a real bed, bath, and breakfast at the same club costs only 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.

1 1 1  
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 subject, as follow:

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

K. NIPPO.

—N. Y. Times.

1 1 1  
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.

1 1 1  
"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."

1 1 1  
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-Jitsu 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.

1 1 1

**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. MIKSCHÉ,  
Czechoslovakian Army

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

*Schwerpunkt* and *aufrollen* — the spearhead penetration of a frontal point and the ensuing disbursement for flank attacks — carefully explained.

Every officer should read this book *now!*

**\$2.00**

No. F-22 on The Cavalry Journal book list.

## GET TOUGH!

By CAPTAIN S. E. FAIRBAIRN

How to kill with your bare hands! How to protect yourself from the tricks practised for years by the enemy to kill you!

Buy this book and study it.—It may save your life.

**\$1.00**

No. G-18 on The Cavalry Journal book list.

## The Army Wife

By NANCY SHEA

. . . . a valuable book at an opportune time. Written by an army wife with much experience in the problems of army life, this book is destined to become the *Emily Post* of the army. For those new or old in the service, it is an invaluable guide.

**\$2.50**

No. G-5 on The Cavalry Journal book list.  
—see last page, this issue.



## THERE IS ONLY ONE GUIDE



### Complete

Everything an officer needs to know



### Authoritative

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8th Edition, May 1942

## THE OFFICERS' GUIDE

You can depend on the Officers' Guide as on no other manual published to give you the latest, most complete interpretation of the mass of War Department publications affecting the officer. It is the *only* manual that gives the whole Official story, plus authoritative advice on Uniforms, Foreign Service, Exercise of Command, Customs of the Service and other matters vital to the officer.

This new Eighth Edition contains more information than ever before. The vital question of censoring soldiers' mail has been handled fully, as have the ticklish duties of the Public Relations Officer. The new supply procedure (Circular 105, April 10, 1942) has been included, and also the latest information on promotions (Circular 111, April 15, 1942). New colored plates on all the officers' insignia, and many of the shoulder patches of both the Army and Civilian Defense organizations have been included. Many other changes and revisions have also been made.

More than seventy-five thousand copies of this standard manual are your best guarantee that:

*To Have the Officers' Guide is to  
Know Your Way Around*

479 Pages

\$2.50

Illustrated

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.

1 1 1

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 appended. \$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.

1 1 1

PERSONAL FINANCE AND MANAGEMENT FOR THE ARMY OFFICER. By Lt. Colonel Charles R. 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:

CHAPTER	PAGE
I: A Brief History of the Horse .....	1
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III: The Heavy or Draft Horse .....	69
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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.

✓ ✓ ✓

**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.

The illustrations alone are a riot!

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# The Desert Training

*By Major General  
George E. Patton, Jr.*

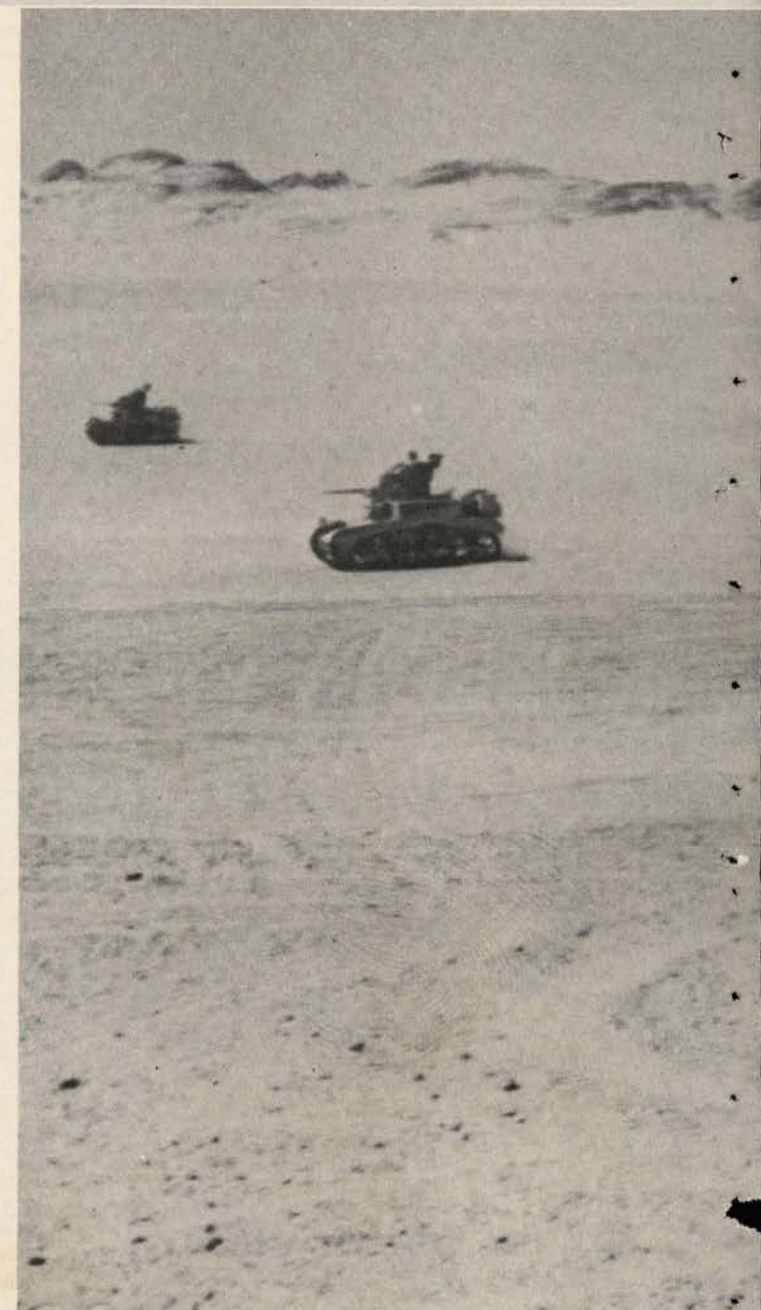
TO all who for years have been bedeviled by arbitrary restrictions on maneuvers, the situation at the Desert Training Center is truly as inspiring as it is unusual. In the whole 12,000,000 odd acres the only restrictions as to movement are those imposed by nature. Even so, these are more accurately deterrents 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

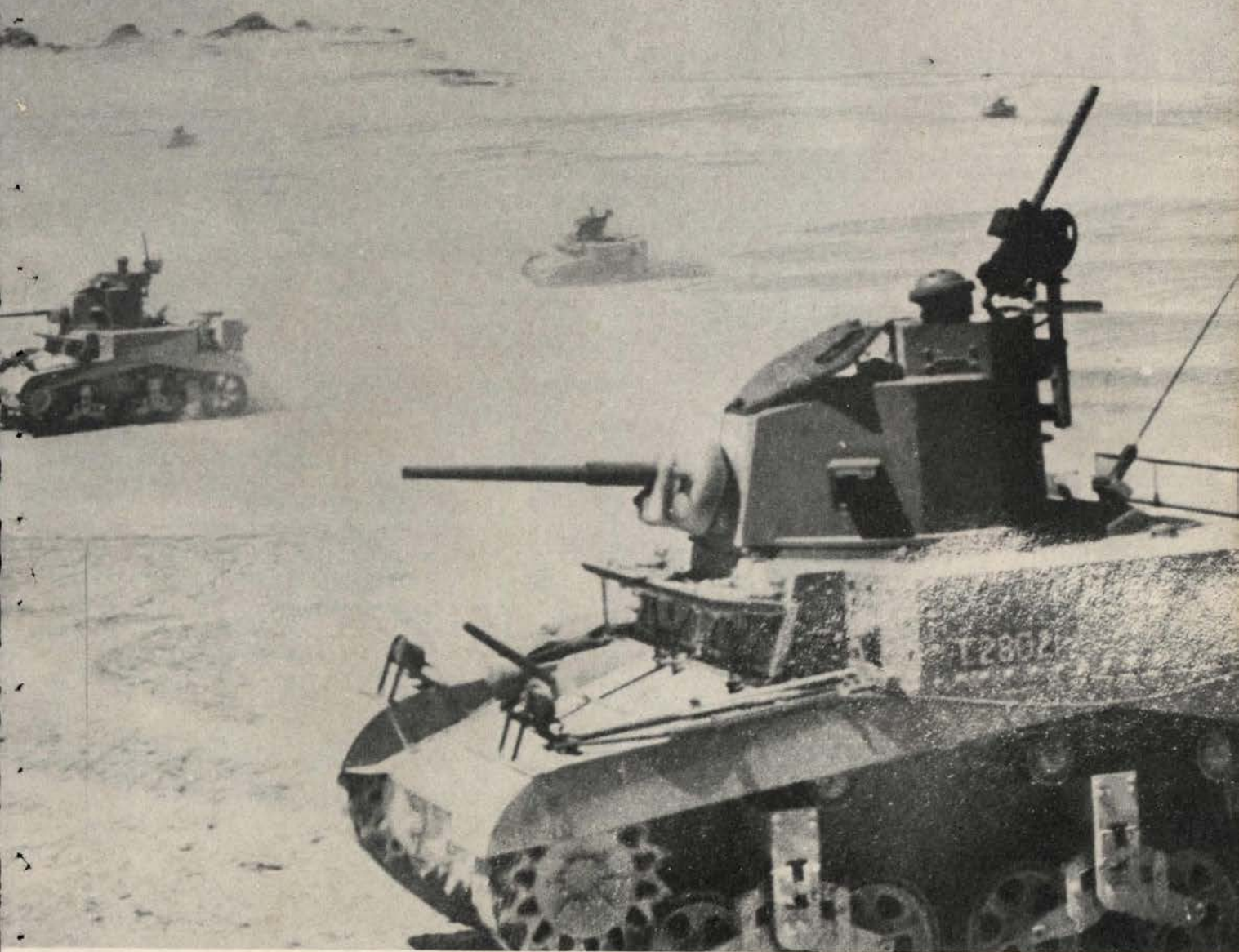


accomplished. Formations now in use can move across country, followed by the combat train, and without halting can deploy into the attack formation and execute an attack, and at no time present any target worthy of bombardment.

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



# g Corps



## American Tanks on the African Desert

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 pro-

vided 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.





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.

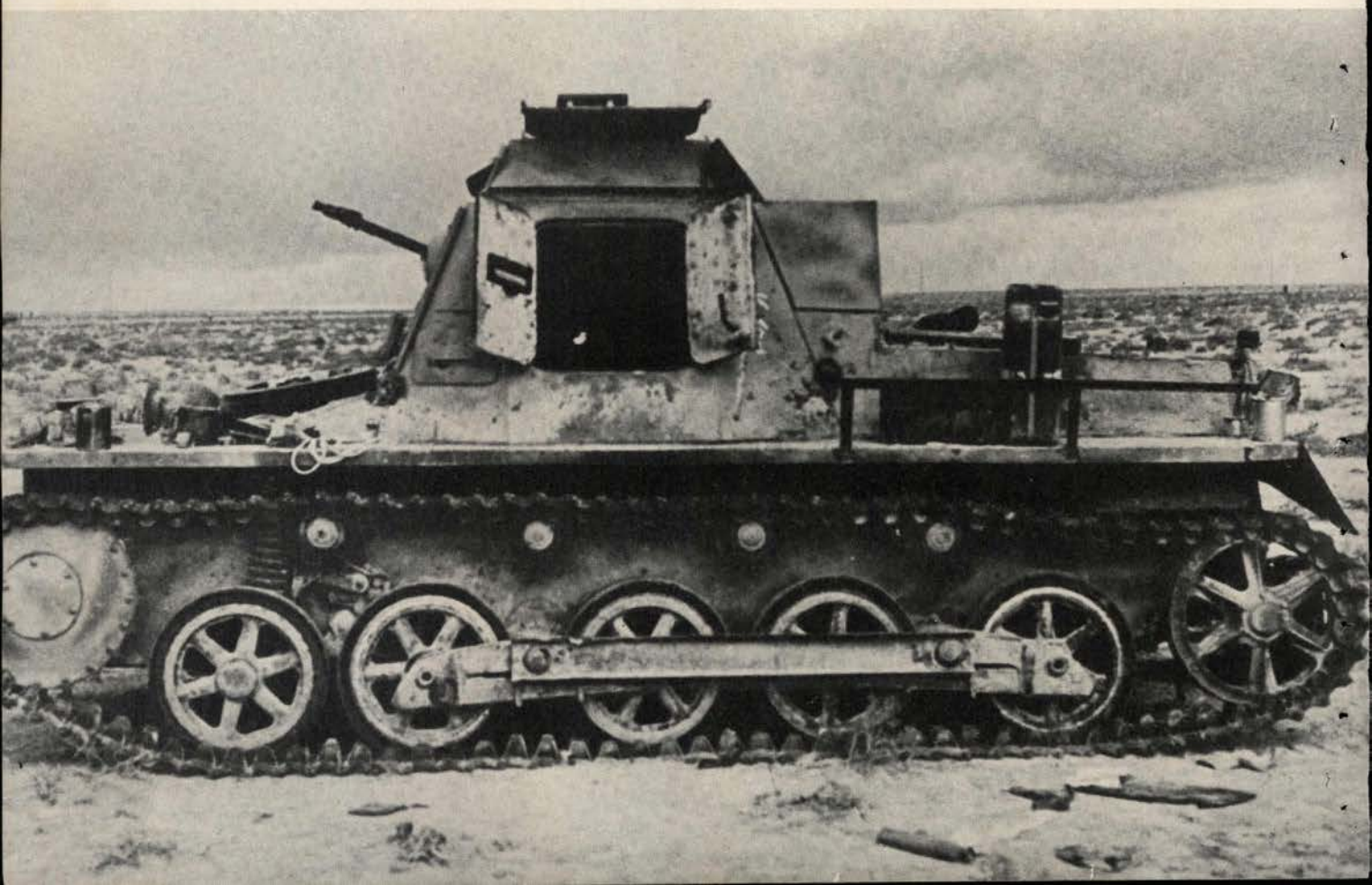
Planes, tanks, motorized artillery and infantry on wheels now carry combined destruction to the enemy—swiftly and at a rate of speed unheard of a few years ago. The different arms and services have been welded into a compact fighting team—the armored division. Each man, each vehicle, each weapon is a 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.

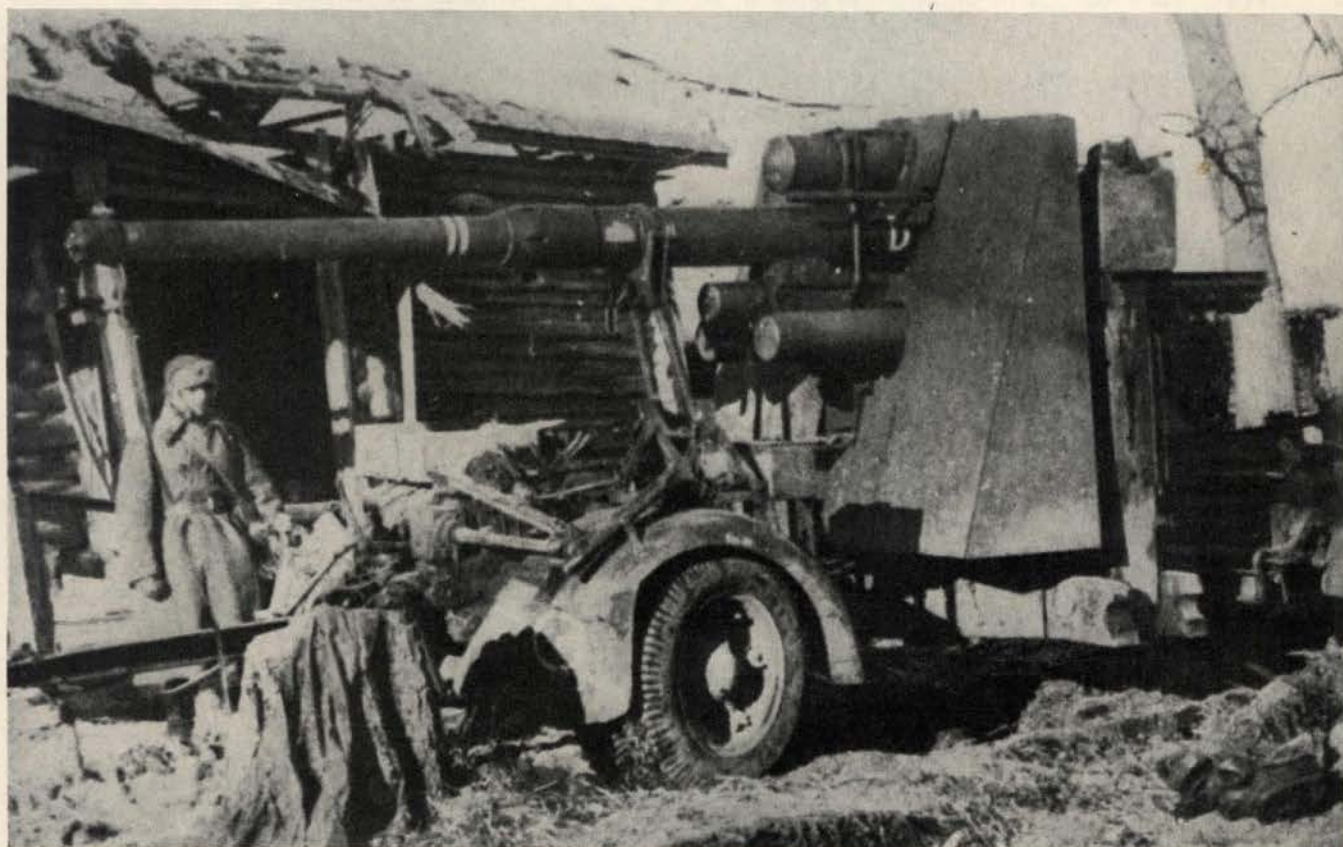
Both Officers and soldiers must treat these weapons with respect for they stand between them and the triple threat of death, hospital, or enemy labor battalion. Soldiers have been taught what their weapons will stand and what they will not stand. They have been trained in their servicing and maintenance. 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 anti-

tank 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.

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

\*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.





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 fail 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 cavalymen 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 re-

serve 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, Skobelev 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 Przemyśl 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.

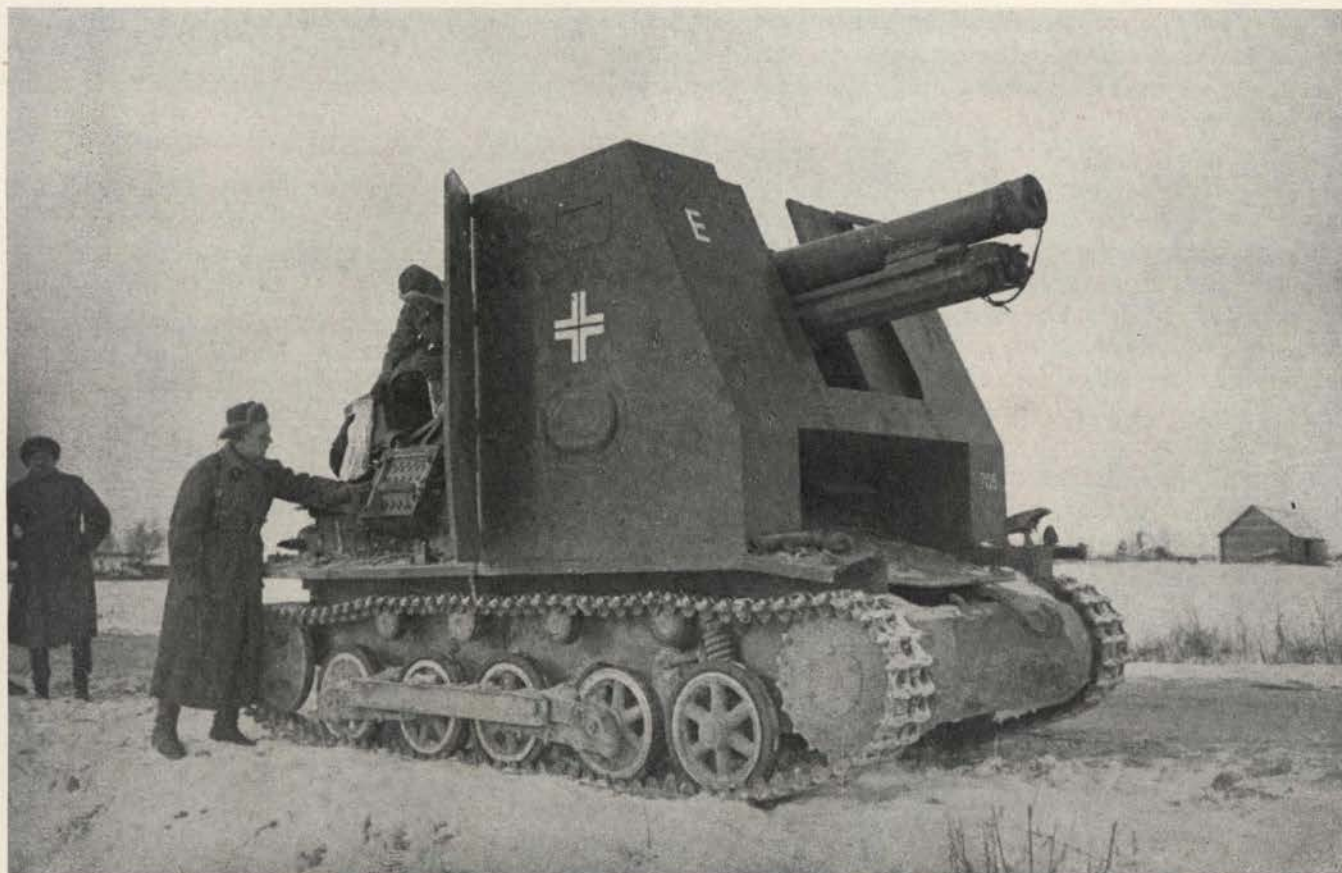
The use of tanks by Germany as the "spearhead" of attack developed from the need of an implement that would penetrate the extended "fixed front" of static trench warfare, thereby creating a war of maneuver and opening an exposed flank for the classical attack expounded by Clausewitz and Schlieffen as 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 breakthrough, 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 breakthrough 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 con-

ceded 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. MIKSCH, *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.

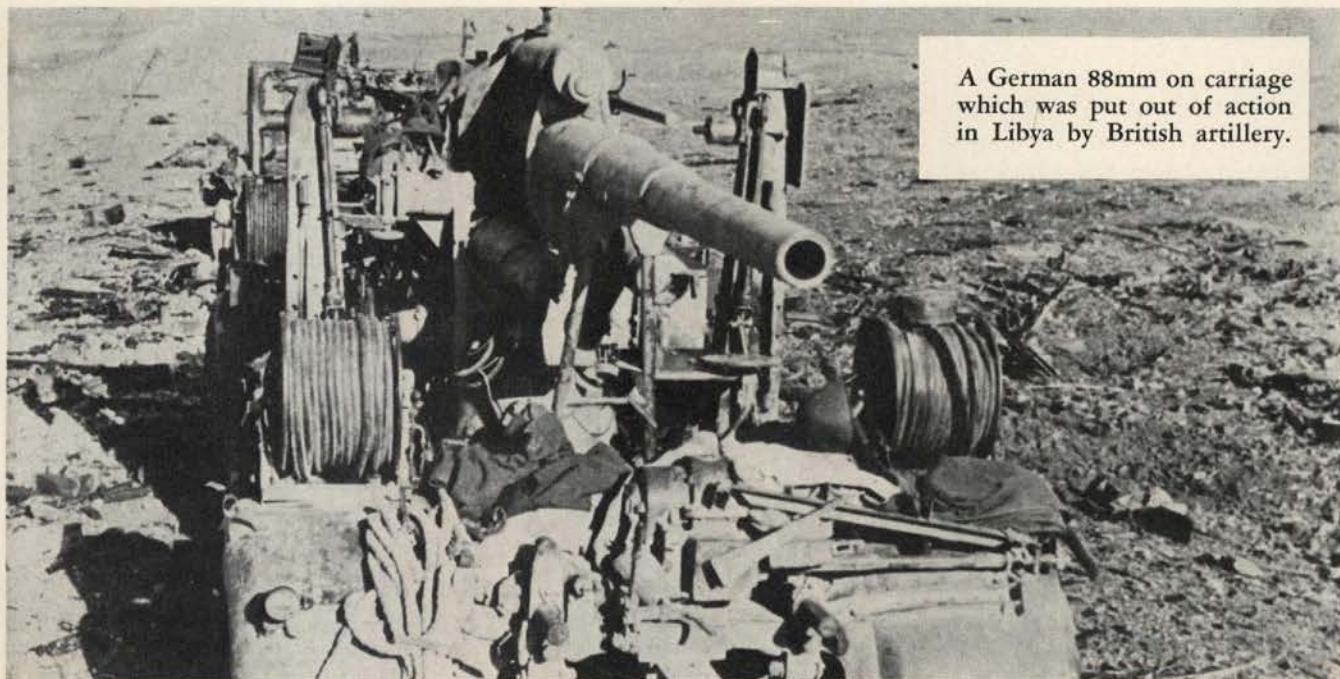
"One of the smartest little actions I have seen took place two weeks later. Our cruiser squadron, consisting of eight tanks, attacked a German column, complete with antitank guns. Under a smoke barrage our cruisers overran the enemy guns and captured the whole column with a loss of only one tank. This 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 anti-aircraft 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 anti-aircraft battery stationed near Furstenwalde outside Berlin. When I got there they assigned me to a battery of 88mm anti-aircraft 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 anti-aircraft 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 anti-aircraft use, its personnel belonged to the *Luftwaffe*—the German air force is charged with all anti-aircraft 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."



# General Hawkins' Notes

CARDED

## 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 destruc-

tion 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 un-

due 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 Kononov. He overtook a group of Germans and slashed eight of them to death. The ninth fired his pistol and wounded Kononov, 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.





# Editorial Comment

## 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 coördination 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?"

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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.

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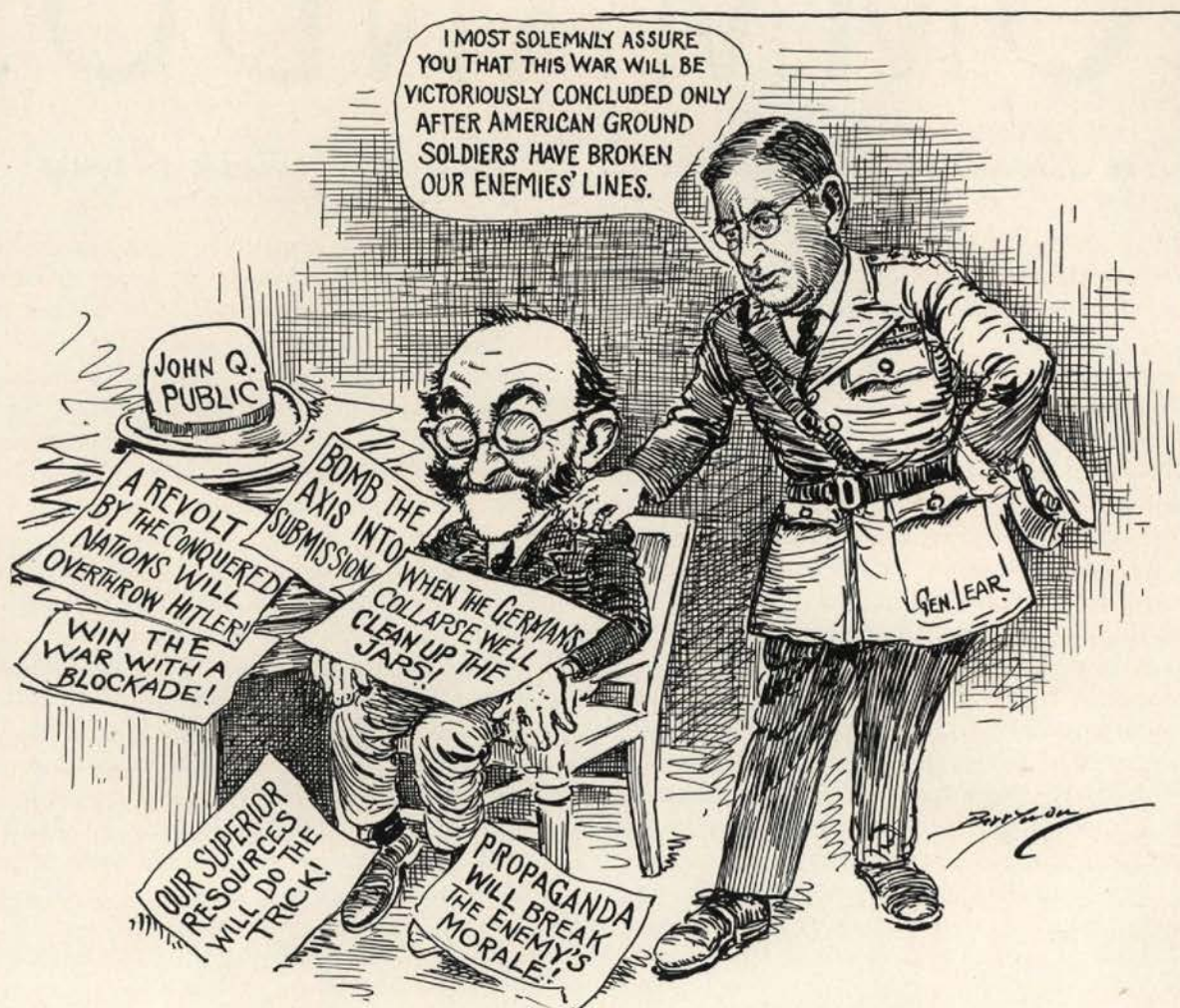
## If You Are Transferred

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

\*Courtesy, The Evening Star (Washington).

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!



# 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

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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.



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."





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 mecha-

## Britain Trains Pack

nized 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







# Horses for the War

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

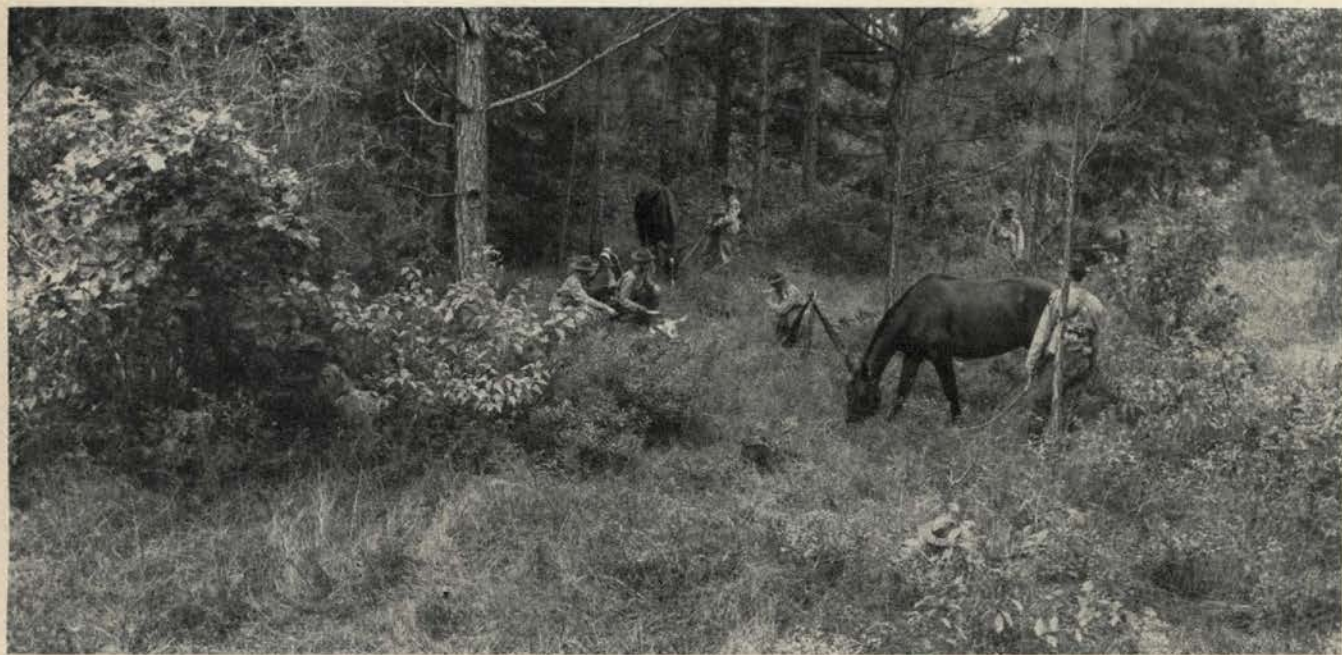
much to do with large scale operations of troops, particularly mechanized forces. Rain, fog, wind, or cold does not stop a small mounted group of determined individuals.

## 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 un contemplated 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 coordination 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, tying 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 lightning 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 commandos 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 horsemanship. 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 *raiding* 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.

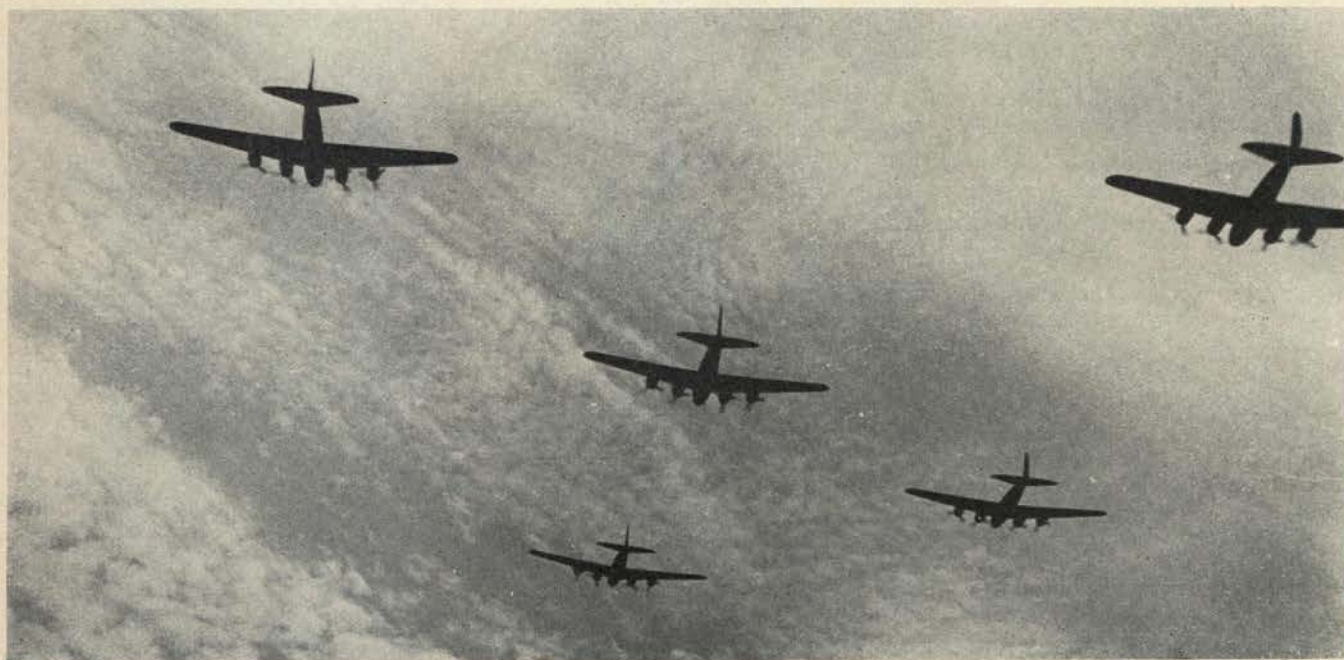
How do you define "Air Superiority"? How do you get it, and what does it really mean?

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 interpreting. 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 strategic *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.

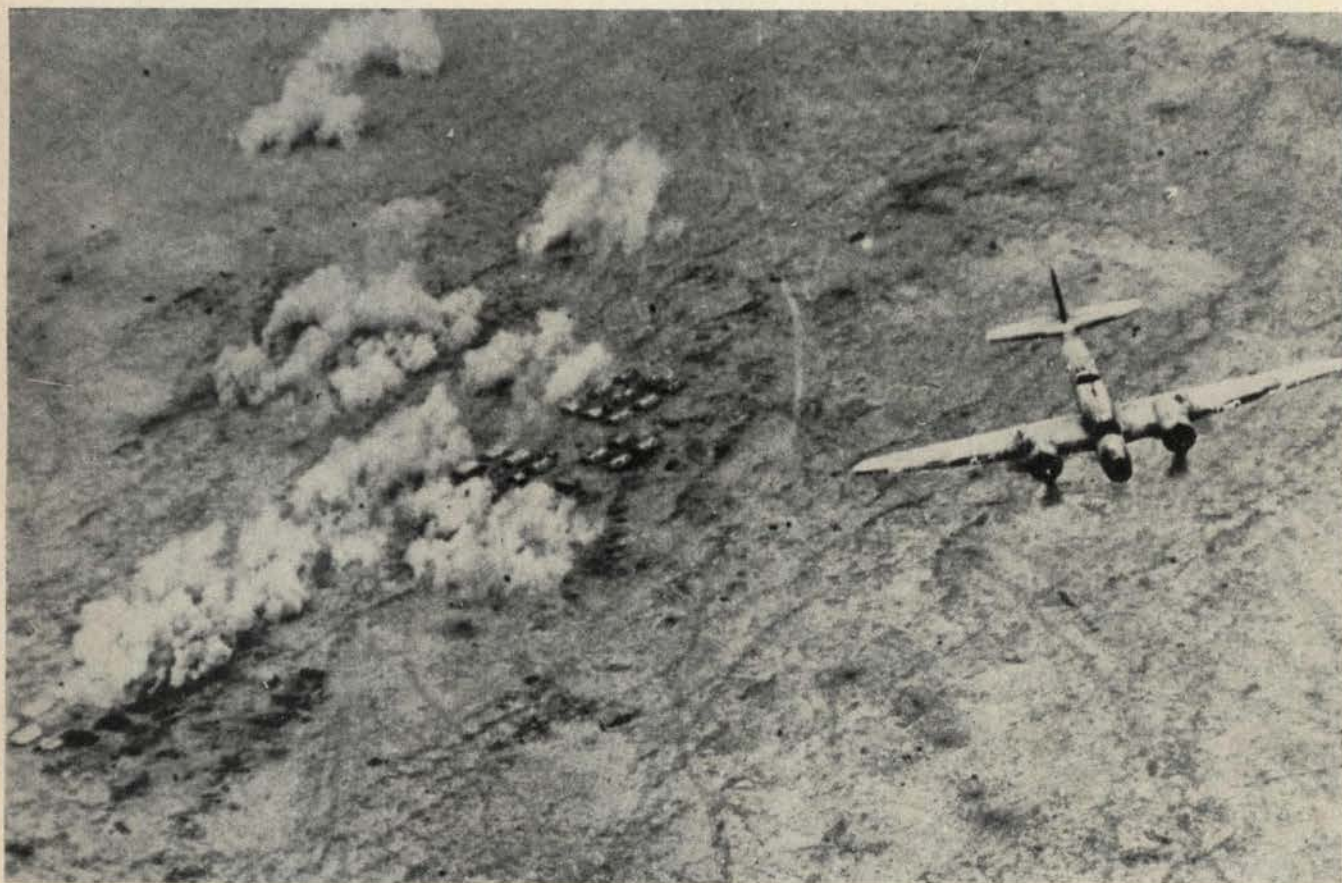
Events of this war have shown that the weaker side in the air has little choice between continuing the unequal fight until its own air power is inevitably wiped out completely, or breaking off the engagement with the hope of finding more favorable conditions at a later time and place. This was the situation 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. Dribbles 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



An Axis encampment near El Adem is seen receiving accurate bombing from the South African Air Force. Prior to its recapture by Imperial Forces.



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.

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. MIKSCHKE, *Attack*.



# Characteristics of Enemy Aircraft

**D**ESCRPTIONS 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 maximum speed of 330 miles per hour at 18,000 feet and a cruising speed of 300 miles per hour, 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 sim-

ilarly 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.

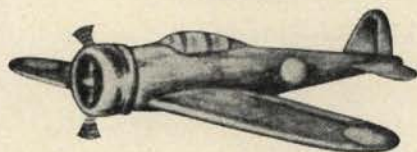
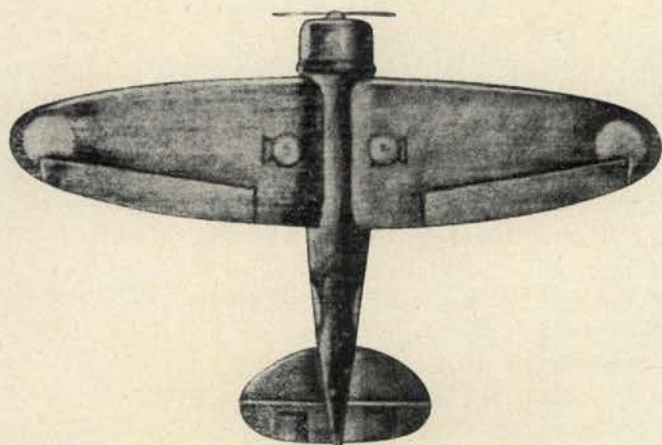
The German Dornier 217, a twin-engined bomber

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.

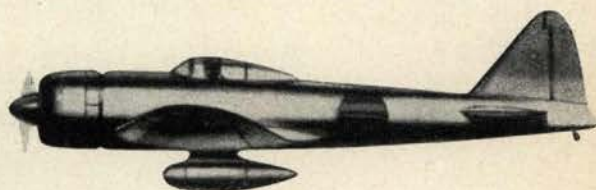
## The Much Discussed ZERO Fighter Planes



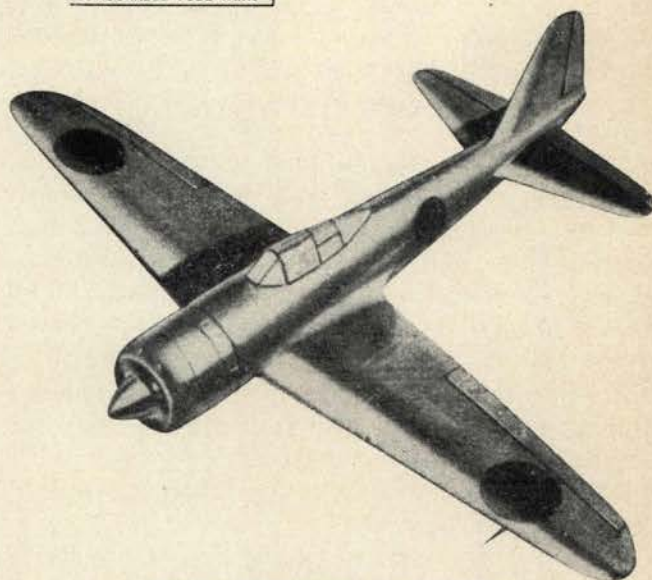
ZERO FIGHTER (MITSUBISHI)

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.



JETTISONABLE FUEL TANK



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 attempt 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 continuously 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 coordinated 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<sup>\*</sup>

*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.

<sup>\*</sup>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

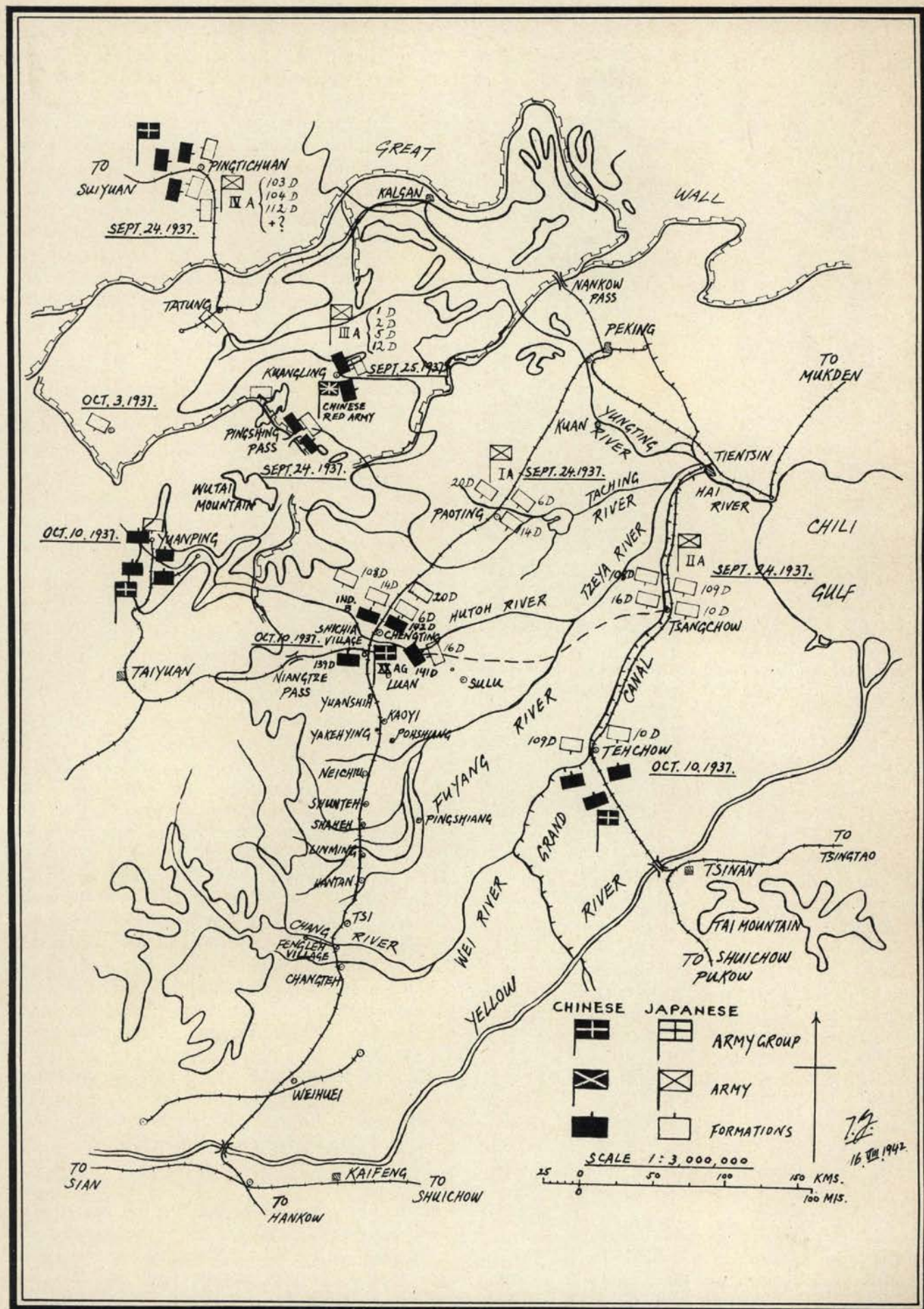
The Battle for the Peking-Hankow Railway was fought in the Province of Hopei (formerly Chili), which compares in both size and shape to the State of North Carolina in America. The soil, having a slight touch of desert sands in its main alluvium composition, is neither very sticky as clay when wet, nor 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-

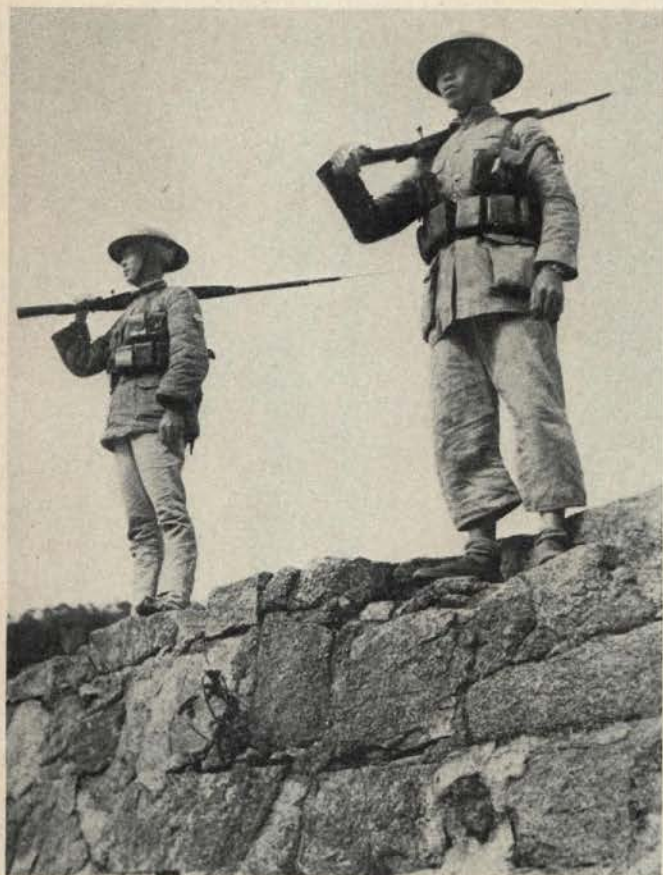
\*EDITOR'S NOTE: During the Battle for the Peking-Hankow Railway Colonel Yen served as *aid-de-camp* under General Chen Shang, Commander-in-Chief of the Chinese forces that participated. At present, General Shang is the Director General of the National Military Council, and at the same time holds the 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 Shansi 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 inter-transferable. 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.

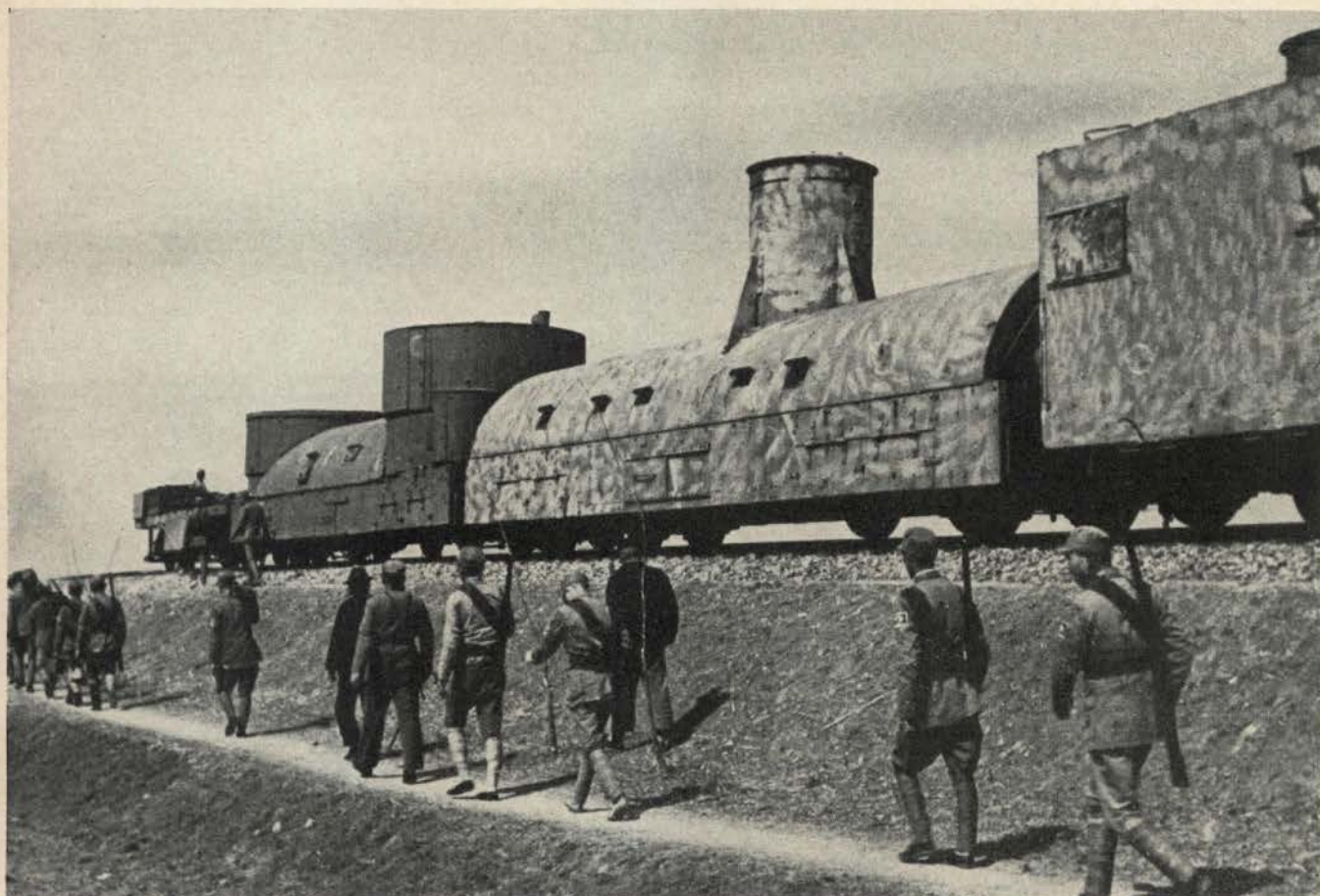
Colonel Chikeh Chiang, Chief of our Staff Branch, was sent to Chengting to see General Sung to arrange a withdrawal in conjunction with the 141st Division to the line Towyui-Luan. The headquarters at Shihchia Village was only our Advanced Field Headquarters, while the bulk of the headquarters with its 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 Yuan-shih, 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 co-operation 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 cavalymen 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 reestablished 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 cavalymen, by the very nature of those ingredients which go into the making of cavalymen, 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 cavalymen. There will be a few in the cadre, but that will end it. The rest will be stockbrokers, acrobats, tool-makers, 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 capa-

bilities 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 coordination and cooperation 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 commitment 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 coordinate them.

It is G-2's job to do it for him—to arrange the joint schedules involved, to coordinate 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 coordination 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.

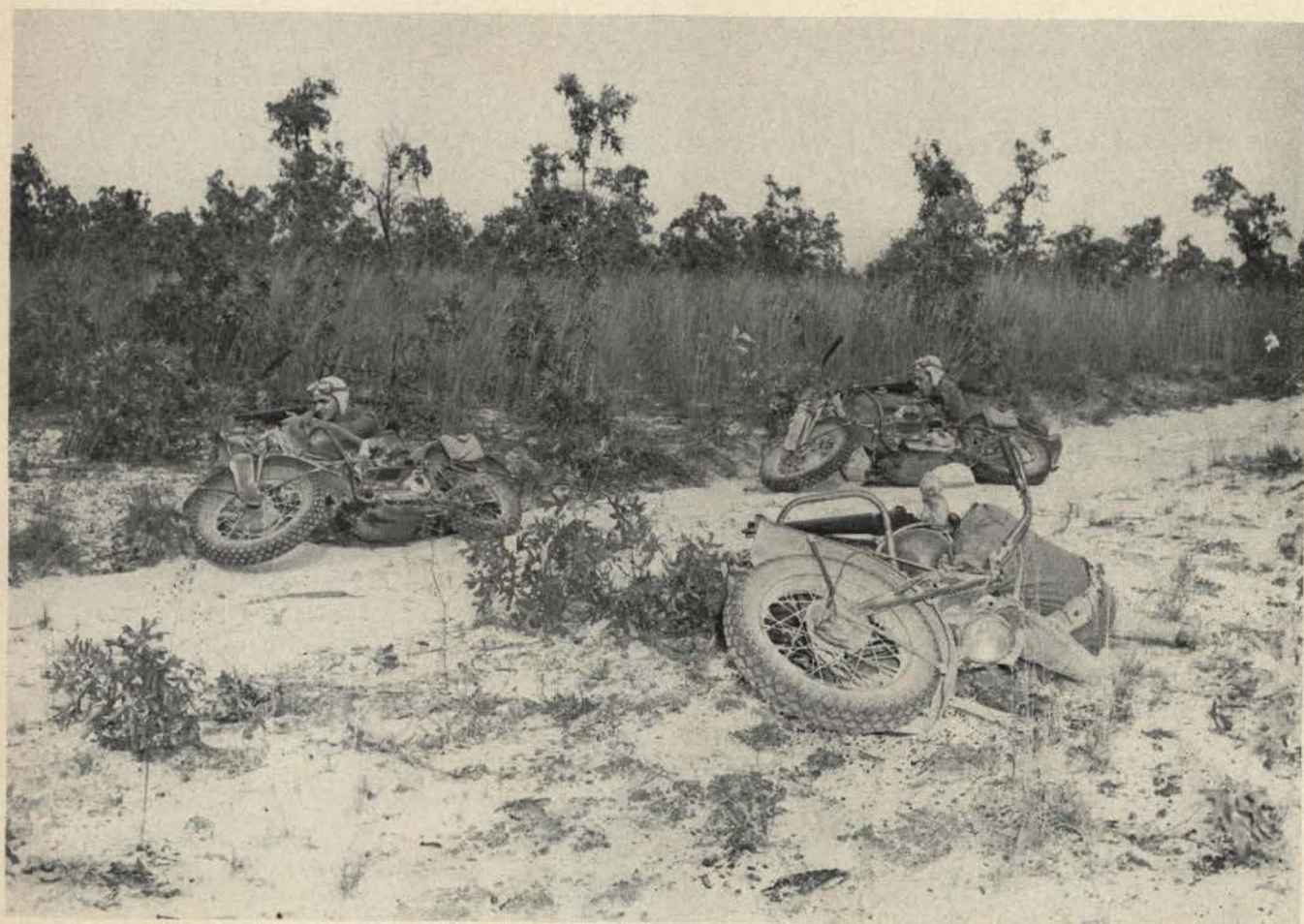
Nothing opens the senses, or makes them register quicker than enemy fire, but there are academic methods that to a certain degree will approximate the same results—and pave the way to receiving that fire and reacting to it intelligently.

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<sup>\*</sup>

**"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 grouching. 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 aware-

<sup>\*</sup>Issued by the Curragh Command, H.Q. Staff. Courtesy, *An Cosantóir*, Eire.



ness 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



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.

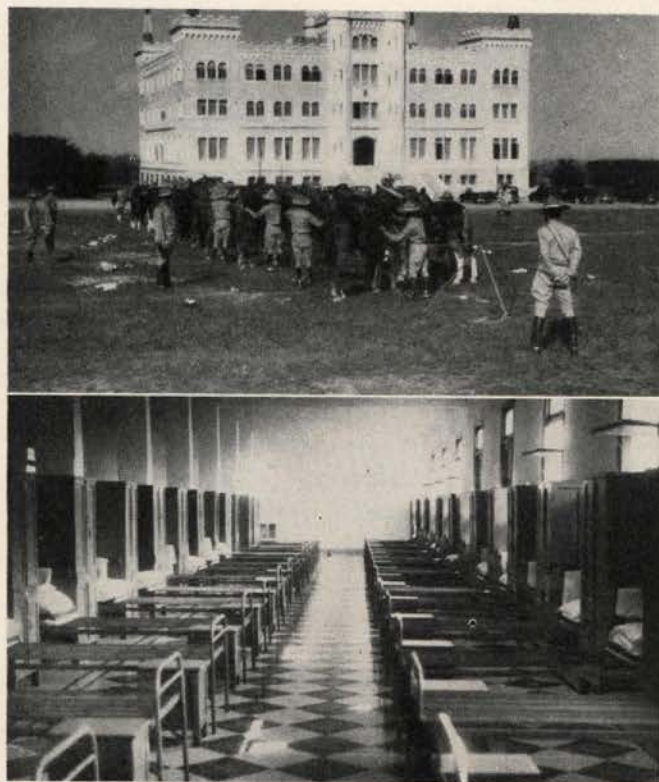
The First Lieutenant Supply Officer is in charge of supplies for the Squadron, and also everything that

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.

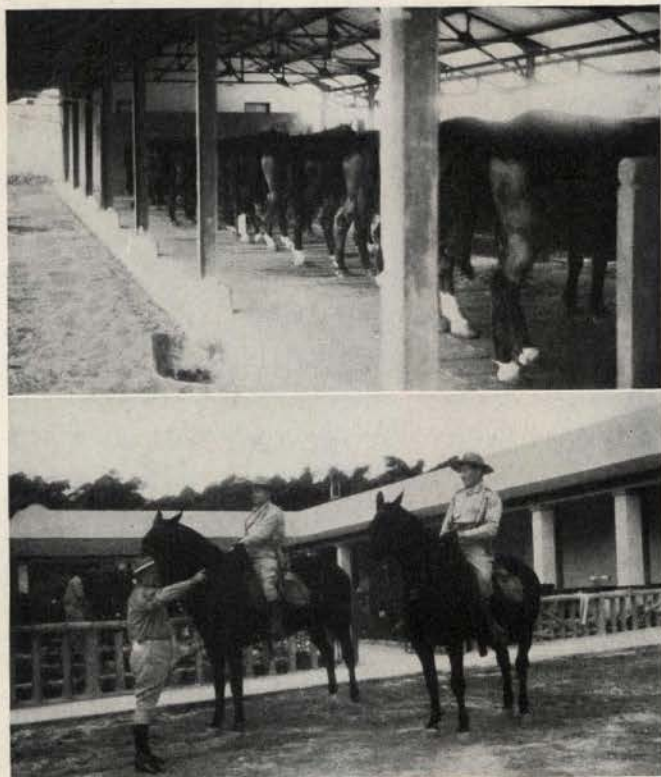
Inasmuch as the Tactical Squadrons are attached to the Regiments (the island is divided into regimental areas), the latter attach medical and veterinary services to the Tactical Squadrons whenever these go out on manoeuvres or combat, and in these instances these services are under the immediate orders 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 (*Capitanías 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 gradu-

ated 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 cavalymen 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 cavalymen 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 Gassanoye, 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’instance, 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

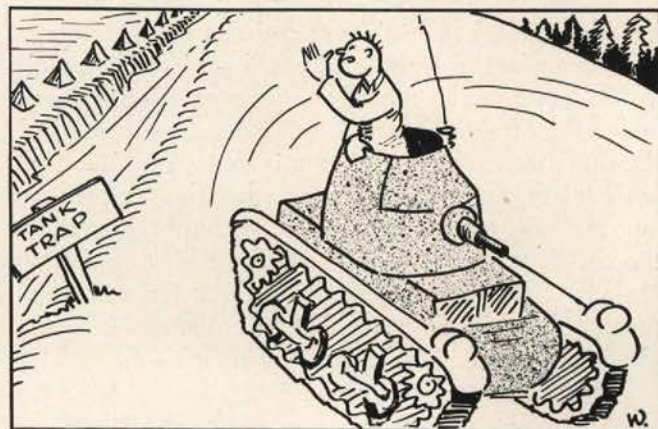
to do it—or restart the engine, and neither of them methods is no joke on a hill.

“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.

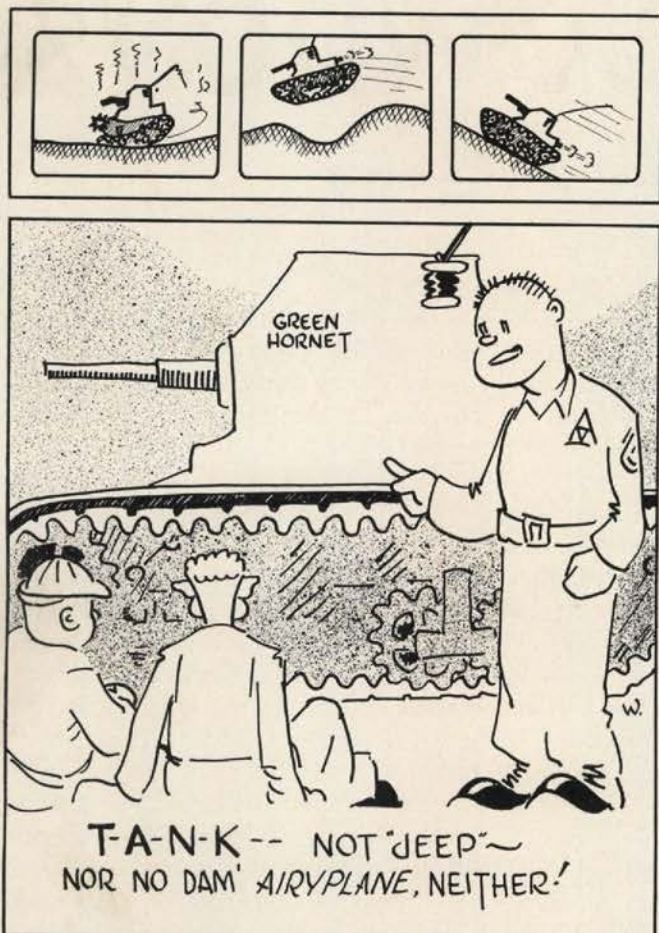
“In a truck—which is all you cowboys know about—you can haul the steering wheel hard a starboard and leave it there while the truck goes around in circles until it’s as dizzy as you always are—but you can’t in a tank. The steering brakes and the brake linings get hotter than the old man when you smashed 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 coordinates 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;<sup>1</sup> 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.

<sup>1</sup>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.

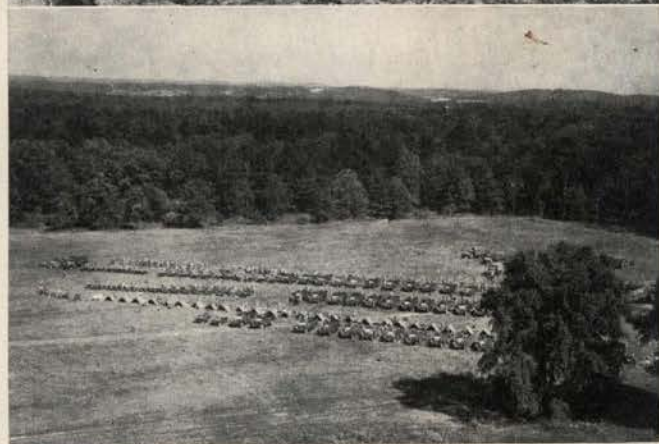
The general said that he understood that, if captured, he was to be held only an hour. The captain courteously disagreed. The two reached a gentlemen's compact that General Drum would drive to General Headquarters and obtain a ruling, returning at once if so ordered by G.H.Q.

"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 reconnaissance 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	
Mtel 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	

Mountain rifle Co.....	
Bcl Co.....	
Mtel Co.....	
MG Co.....	
MG Co of Mountain rifle Bn.....	
Mtel MG Co.....	
Inf How Co.....	
AT Co.....	
MI Plat.....	
Sig Sec (Inf Regt or Bn).....	
Sig Sec (Mountain rifle Regt or Bn).....	
L Inf elm (HD).....	
L Inf elm (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 Ren Unit Hq	
Inf Div Ren Unit	
Tr Hq	
Horse Cav Tr	
MG Tr	
Bcl Co	
Cav gun Plat	
Engr Plat (Mtz)	
Sig Plat	
L Cav elm	
Individual cavalymen	
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 elm	
L Arty elm (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	
Mtel Bn Hq	
Tr or Co Hq (armored fighting troops)	
Mtel 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 Prk-----	
H Amb Sec (Mtz)-----	
Sick lines for horses-----	
Vet aid Sta-----	
Coll Sta for sick and wounded horses-----	
Rmt 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-----	
<b>Obstacles.</b>	
Wire fence-----	
Wire entanglements-----	
Wire netting obstacle-----	
Trip wire-----	



Tree blocks	
Felled trees	
Buildings razed to the ground	
Flooded area (colored blue)	
Dam	
<b>Boundaries.</b>	
Army	
Corps	
Div	
Regt	
Bn (or equivalent unit)	
Co (or equivalent unit)	
Objective	
Limit of Ren	

**Air force.**

<i>Parachute units.</i>	
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 2d Motorized Reconnaissance (Mtz).	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.	Artilleriemessstrupp	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	ABBREVIATION	SIGNIFICATION	TRANSLATION
ber.	beritten	Mounted.	Inf. Kdr. 4	Infanteriekommandeur 4	Infantry Commander of the 4th Division.
Bez.	Bezirk	District.	Inf. Sch.	Infanterieschule	Infantry School.
Bf.	Bahnhof	Railroad station.	Insp.	Inspekteur	Inspector.
Blst.	Blockstation	Signal box.	Inspek.	Inspektion	Inspectorate.
Br.	Brücke	Bridge.	I. R. 6	Infanterie-Regiment 6.	6th Infantry Regiment.
	Brunnen	Well.	II./I. R. 24	II. Bataillon Infanterie-Regiment 24	2d Battalion of 24th Infantry Regiment.
Bruko	Brückenkolonne	Bridge column.	6./I. R. 20	6. Kompanie Infanterie-Regiment 20	6th Company of 20th Infantry Regiment.
B. St.	Beobachtungsstelle	Observation post.	i. V.	in Vertretung	Deputy for.
Btl., Btlm.	Bataillon	Battalion.	Jäg.	Jäger	Rifleman or rifle (unit).
Btl. G. St.	Bataillonsgefechtsstand	Battalion command post.	Jg.		
Bttr.	Batterie	Battery.	K.	Kirche	Church.
D. A. A.	Divisions-Aufklärungs-Abteilung	Divisional reconnaissance battalion.	Kanal	Kanonier	Canal.
d. B.	des Beurlaubtenstandes	Retired.	Kap.	Kapelle	Gunner.
1 Div.	1. Division	1st Division.	Kas.	Kaserne	Chapel.
E. B.	Ersatz-Bataillon	Training battalion.	Kav.	Kavallerie	Barracks.
Eisb.	Eisenbahn	Railroad.	Kav. R. 11	Kavallerie-Regiment 11	Cavalry.
E. M.	Entfernungsmesser	Range finder.	5./Kav. R. 10	5. Schwadron Kavallerie-Regiment 10	11th Cavalry Regiment.
Ers.	Ersatz	Replacement, reserve.	Kav. Sch.	Kavallerieschule	5th Troop of 10th Cavalry Regiment.
F.	Fähre	Ferry.	K. D.	Kavallerie-Division	Cavalry School.
Fbr.	Fabrik	Factory.	Kd.	Kommando	Cavalry Division.
Fda.	Feldartillerie	Field artillery.	Kdr.	Kommandeur	Headquarters.
Fl.	Fluss	River.	Kdt.	Kommandiert	Commander.
Fla.	Flugabwehr	Antiaircraft.	Kdtr.	Kommandant	Detached, detailed.
Flak.	Flugabwehrkanone	Antiaircraft gun.	Kf.	Kommandantur	Commandant.
Flw.	Flammenwerfer	Flame thrower.	Kf. Lehrst.	Kraftfahr	Commandant's office.
Fnd.	Feind	Enemy.		Kraftfahrlehrstab	Motor Transport.
Ft.	Furt	Ford.			Motor transport training staff.
Fw.	Feldwebel	Sergeant.	Kfw.	Kampfwagen	Tank.
G.	Geheim	Secret.	Kfz.	Kraftfahrzeug	Tank.
Geb. Jäg. R. 99	Gebirgsjäger-Regiment 99	99th Mountain Rifle Regiment.	K. G.	Kavalleriegeschütz	Motor transport vehicle.
Geb. Pi. 54	Gebirgs-Pionier-Bataillon 54	54th Mountain Engineer Battalion.	Kkw.	Krankenkraftwagen	Cavalry howitzer.
Gefr.	Gefreiter	Corporal.	Kl.	klein	Motor ambulance.
Gef. St.	Gefechtsstand	Command post.	Kol.	Kolonne	Small.
-geh.	-gehilfe	Assistant.	Kp.	Kompanie	Column.
Gel.	Gelbkreuz	Yellow cross (i. e., vesicant) gas.	Kr.	Krug	Company.
Gen.	General	General.	Krad.	Kranken-	Public house, inn.
Gen. Kdo. III A.K.	Generalkommando III Armeekorps	III Corps Headquarters.	Krad. mit Beiwg. Krad. mit B.	Krafttrad	Sick (etc.).
Genst. d. H.	Generalstab des Heeres	Army General Staff.	Kradf.	Krafttradfahrer	Motorcycle, solo.
Gestapo	Geheime Staatspolizei	Secret State Police.	Kradsch.	Kradschützen-Bataillon 3	Motorcyclist.
Gew.	Gewehr	Rifle.	2./Kradsch. Btl. 3	2. Kompanie Kradschützen-Bataillon 3	3d Motorcycle Battalion.
gez.	gezeichnet	Authenticated.	Kraftf.	Kraftfahrer	2d Company of 3d Motorcycle Battalion.
gl.	geländegängig	Cross-country (as applied to vehicles).	Krkw.	Krankenkraftwagen	Truck or car driver.
Gr.	Granate Gruppe	Shell. Section (especially of Infantry); force; army group.	Krw. G.	Kraftwagengeschütz	Motor ambulance.
Grz. Kdo.	Grenzkommando	Frontier division headquarters.	Kst.	Küste	Tractor-drawn gun.
H.	Heeres	Army.	Kw.	Kraftwagen	Coast.
Hbf.	Hauptbahnhof	Main station.	Kw. Ah.	Kraftwagenanhänger	Truck.
H. Dv.	Heeres-Dienstvorschrift	Army Training Regulations.	Kw. Flak.	Kraftwagenflak	Trailer for truck.
Höh. Kav.	Höherer Kavallerie-Offizier	Senior Cavalry officer at headquarters.	Kw. K.	Kraftwagenkanone	Motorized antiaircraft artillery.
Höh. Nachr. Offz.	Höherer Nachrichten-Offizier	Senior Signal corps officer at headquarters.	kz.	kurz	Tractor-drawn gun.
Höh. Offz. Art.	Höherer Offizier der Artillerie-Beobachtungstrupen	Senior Artillery survey officer at headquarters.	L.	Luft	Short.
Beob. Tr.			l.	leicht	Air.
Höh. Pi. Offz.	Höherer Pionieroffizier	Senior Engineer officer at headquarters.	Laf.	Lafette	Light.
Höh. Pz.	Höherer Panzerabwehr-Offizier	Senior antitank officer at headquarters.	l. Art.	leichte Artillerie	Gun-carriage.
Abw. Offz.			Ldst.	Landstrum	Light artillery.
Horn.	Hornist	Bugler.	Lehrg.	Lehrgang	"Landstrum" (i. e., men over 45).
Hp.	Haltepunkt	Stopping place.	l. F. H.	leichte Feldhaubitze	Course of instruction.
Hptm.	Hauptmann	Captain (except in cavalry and horse artillery).	lg.	lang	Light field howitzer.
Hs.	Haus	House.	l. Gr. W.	leichter Granatwerfer	Long.
H. V. Bl.	Heeres-Verordnungsblatt im Auftrage	Army orders.	l. J.	laufenden Jahres	Light mortar.
i. A.	Inspekteur des Ausbildungswesens	By order.	Lkw.	Lastkraftwagen	Of the current year.
I. A. W.		Inspector of Training.	L. L. T.	Luftlandstruppen	Truck.
I. D.	Infanterie-Division	Infantry division.	L. M. Tr.	Lichtmesstrupp	Air landing troops.
I. G.	Infanteriegeschütz	Infantry howitzer.	Lst.	Ladestelle	Flash ranging platoon.
13./ (I. G.) / I. R. 13.	(Infanteriegeschütz) Kompanie Infanterie-Regiment 11.	13th (Infantry Howitzer) Company of 11th Infantry Regiment.	Lt. Ltn.	Leutnant	Loading platform or point.
11.			lt.	laut	Second lieutenant.
			Lw.	Landwehr	In accordance with.
			M.	Mühle	"Landwehr" (i. e., men aged 35-45).
			m.	mitter	Mill.
			Mag.	magazin	Medium.
			Mai.	Major	Magazine, store, depot.
					Major.



ABBREVIATION	SIGNIFICATION	TRANSLATION	ABBREVIATION	SIGNIFICATION	TRANSLATION
M. E. Z.	Mitteleuropäische Zeit	Central European time.	Pz. Abw. Abt. 4.	Panzerabwehr-abteilung 4	4th Antitank Battalion.
M. G.	Maschinengewehr	Machine gun.	2./Pa. Abw. Abt. 7.	2. Kompanie Panzerabwehr-Abteilung 7	2d Company of 7th Antitank Battalion.
M. G. Btl. 6. (mot.).	Maschinengewehr-Bataillon 6 (mtz.)	6th Machine-gun Battalion.	Pz. B.	Panzerbüchse	Antitank rifle.
4/(M. G.) I. R. 10	4. (Maschinengewehr) Kompanie Infanterie-Regiment 10	4th (Machine-gun) Company of the 10th Infantry Regiment.	Pz. B. Tr.	Panzerbüchsentrupp	Antitank rifle section.
Mil.	Militär	Military.	II. Pz. Brig.	II. Panzer-Brigade	2d Tank Brigade.
Min.	Ministerium	Ministry.	2 Pz. D.	2. Panzerdivision	2d Armored Division.
M. K.	Munitionskolonne	Ammunition column.	Pz. Jg. Abt.	Janzerjäger-Abteilung	Antitank battalion.
Mk.	Marschkolonne	March column.	Pz. Kpf. Wg. or Pz. Kw.	Panzerkampfwagen	Tank.
Mldg. mot.	Meldung motorisiert	Message. Motorized.	Pz. Rgt. 1.	Panzer-Regiment I	1st Tank Regiment.
M. P.	Maschinenpistole	Machine pistol or sub-machine gun.	II./Pz. Rgt. 4	II. Abteilung Panzer-Regiment 4	2d Battalion of 4th Tank Regiment.
M. S. W.	Militärsanitätswesen	Army medical service.	I./Pz. Rgt. 5	1. Kompanie Panzer-Regiment 5	1st Company of 5th Tank Regiment.
Mun.	Munition	Ammunition.	Pz. Sp. Wg.	Panzerspähwagen	Armored car.
Mun. Anst. m. V.	Munitionsanstalt mit Verzögerung	Ammunition depot. With delayed action.	Qu.	Quartier	Quarters.
N. Abt.	Nachrichten-Abteilung	Signal battalion.	R.	Quelle	Spring; source.
N. Abt. 1	Nachrichten-Abteilung 1	1st Signal Battalion.	R.	Regiment	Regiment.
2/N. Abt. 2	2 Kompanie Nachrichten-Abteilung 2.	2d Company of 2d Signal Battalion.	I (r) A. Abt.	Ruine	Ruin.
Nachh.	Nachhut	Rearguard.	I (reitende) Artillerie-Abteilung	I (reitende) Artillerie-Abteilung	1st Horse Artillery Battalion.
Nachr. Abt. 1	Nachrichten-Abteilung 1	1st Signal Battalion.	R. A. D.	Reichsarbeitsdienst	National Labor Service Corps.
Nachr. Z. I/I. R. 8.	Nachrichtenzug I-Bataillon Infanterie-Regiment 8	Signal Platoon of 1st Battalion of 8th Infantry Regiment.	Radf.	Radfahrer	Bicyclist.
Nachsch.	Nachschub	Supply.	Rem.	Remonte	Remount.
Nebelw. Abt. 1.	Nebelwerfer-Abteilung 1	1st Smoke Battalion.	Res.	Reserve	Reserve.
3/Nebelwerfer-Abt. 4.	3 Kompanie Nebelwerfer-Abteilung 4	3d Company of 4th Smoke Battalion.	R. G. St.	Regimentsgefechtstand	Regimental command post.
N. G.	Nahkampfgeschütz	Close-support gun.	Rgt.	Regiment	Regiment.
N. O.	Nachrichtenoffizier	Signal officer.	Rittm.	Rittmeister	Captain of Cavalry.
N. S. D. A. P.	Nationalsozialistische Deutsche Arbeiterpartei	German National Socialist Labor Party.	R. K. O.	Regiments-Kommando-Ordnung	Regimental order.
N. S. F. K.	Nationalsozialistisches Fliegerkorps	National Socialist Flying Corps.	R. L. B.	Reichsluftshutzbund	National Air Defense League.
N. S. K. K.	Nationalsozialistisches Kraftfahrerkorps	National Socialist Motor Corps.	R. O. A.	Reserveoffizier sanwärter	Candidate for a commission in the Reserve.
N. S. K. O. V.	Nationalsozialistische Kriegsofferversorgung	National Socialist War Victims Welfare Association.	R. R. 2.	Reiter-Regiment 2	2d (horse) Cavalry Regiment.
N. S. R. K.	Nationalsozialistisches Reiterkorps	National Socialist Mounted Corps.	R. St.	Regimentsstab	Regimental staff.
N. Z., N. Zg O. A.	Nachrichtenzug Offiziersanwärter	Signal Platoon. Candidate for commissioned rank.	S.	See	Lake.
Ob. d. H.	Oberbefehlshaber des Heeres	Commander in Chief of the Army.	s.	Sanitäts-schwer	Medical.
Ob. d. L.	Oberbefehlshaber der Luftwaffe	Commander in Chief of Air Force.	S. A.	Sturmabteilung	Heavy (medium in case of artillery weapons). Storm Trooper detachment (National Socialist Party).
Ob. d. M.	Oberbefehlshaber der Marine	Commander in Chief of the Navy.	San.	Sanitäts	Medical.
Oblt(n).	Oberleutnant	First lieutenant.	S. B.	Soldbuch	Identification book and service record.
Obst.	Oberst	Colonel.	Sch.	Schütze	Rifleman, private.
Obstlt(n).	Oberstleutnant	Lieutenant colonel.	Schiesspl.	Schiessplatz	Range.
Offz.	Offizier	Officer.	III Sch. Brig.	III Schützen-Brigade	3d Motorized Rifle Brigade.
O. K. H.	Oberkommando des Herres	High Command of the Army.	Sch. Rgt. 2.	Schützen-Regiment 2	2d Motorized Rifle Regiment.
Ordz. o.V.	Ordonnanz Ohne Verzögerung	Orderly. Instantaneous, without delay.	I/Sch. Rgt. 2.	I Bataillon Schützen-Regiment 2	1st Battalion of 2d Motorized Rifle Regiment.
O.V.L.	Oberst Verkehrsleitung	Road Traffic Control Section at GHQ.	s. F. H.	schwere Feldhaubitze	Medium field howitzer.
P.A.A.	Panzerjäger-Abteilung	Antitank battalion.	s. I. G.	schweres Infanteriegeschütz	Heavy Infantry gun.
Pak.	Panzerabwehrkanone	Antitank gun.	S. K.	Schnellfeuerkanone	Quick firing gun.
14./ (Pz. Jg.) I. R. 17	14. (Panzerjäger) Kompanie Infanterie-Regiment 17	14th (Antitank) Company of 17th Infantry Regiment.	S. Kp.	Sanitätskompanie	Medical company.
Patr.	Patrone	Cartridge.	S. Kol.	Sanitätskolonne	Medical column.
Pers.	Personal	Personnel.	S. M. Tr.	Schallmesstrupp	Sound ranging platoon.
Pi. or Pion.	Pioniere	Engineers.	Sp.	Spitze	Point (of advanced guard).
Pi. 4	Pionier-Bataillon 4	4th Engineer Battalion.	Spilm.	Spielmann	Bandsman.
2./Pi. 30	2 Kompanie Pionier-Bataillon 30	2d Company of 30th Engineer Battalion.	S. S. or	Schutz-Staffeln	Elite troops of the NSDAP.
Pi. Lehr-und Vers. Btl. 2	Pionier Lehr-und Versuchs-Bataillon 2	2d Engineer Training and Experimental Battalion.	St. III A. R. 7	Stab III Abteilung Artillerie-Regiment 7	Headquarters, 3d Battery of 7th Artillery Regiment.
Po. Sch. II	Pionierschule II	2d Engineer School.	ständig	Ständig	Permanent.
Pi. Ub. Pl.	Pionierübungsplatz	Engineer training area or ground.	St. B.	Steinbruch	Quarry.
P.K.	Propaganda-Kompanie	Propaganda company.	Stell.	Stellung	Position.
Pkw.	Personenkraftwagen	Motor car.	St. I. R. 12	Stab Infanterie-Regiment 12	Headquarters, 12th Infantry Regiment.
P. S.	Pferdestärke	Horsepower.	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.
Tamb.	Turm	Tower.
Teno.	Tambour	Drummer.
	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.
Wfm.	Waffenmeister	Ordnance sergeant.
Wkr.	Wehrkreis	Corps area.
W. L.	Widerstandslinie	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 Verfügung	Available.
Zweisp.	zweispännig	Two-horse.

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.

### 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.

### 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.
.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.

## 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.

## A Solution

(Concluded from page 79)

1. a. Class III. b. Class I. c. Class II. d. Class V. 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

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.

# 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.

1 1 1

**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.

1 1 1

**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 refugee 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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W. E. FAIRBAIRN

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- ▶ It isn't jiu-jitsu.
- ▶ It's "dirty fighting" raised to a science.
- ▶ It's 100% effective.
- ▶ It's a system so deadly that it has the Nazis buffaloed. It has enabled the Commandos, (and now the Rangers!) to raid the French and Norwegian coasts at will—bringing back prisoners and leaving demoralized German garrisons in their wake. One British officer, Lord Lovett, led a Commando attack after being Major Fairbairn's pupil for only two weeks. When he returned from that raid he summed up the unfailing efficiency of this method in a two-word cable to the Major: "It works."

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No. G-1 on Cavalry Journal book list  
—See last page, this issue.



*The Cavalry Journal*

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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 side-table 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

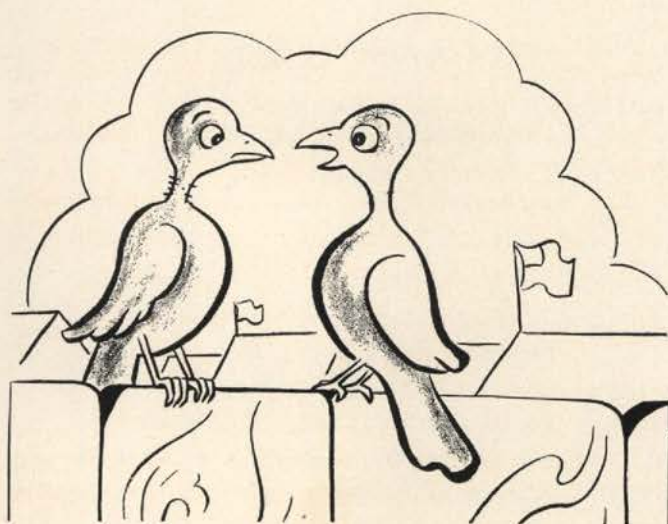
Dear Aunt Enna:

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.

1 1 1



"I'm going to join up with a cavalry unit!"

—Smiles

1 1 1

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.

1 1 1

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."

1 1 1

## 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."

1 1 1

"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."

1 1 1

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.

1 1 1

Now that we're saving all the metal we can, let's get the lead out of our pants.

1 1 1

## 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."

1 1 1

## 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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# JAPAN HAS N

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, ad-

mittedly 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

Japanese troops marching into captured territory.



\*EDITOR'S NOTE: Colonel Babcock, formerly attached to the American Embassy, Tokyo, Japan, recently returned to this country on the diplomatic-exchange ship, *Gripsholm*.



# O ROAD BACK



Japanese landing troops after their invading force has established a foothold.

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 pat-

tern 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



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 tac-

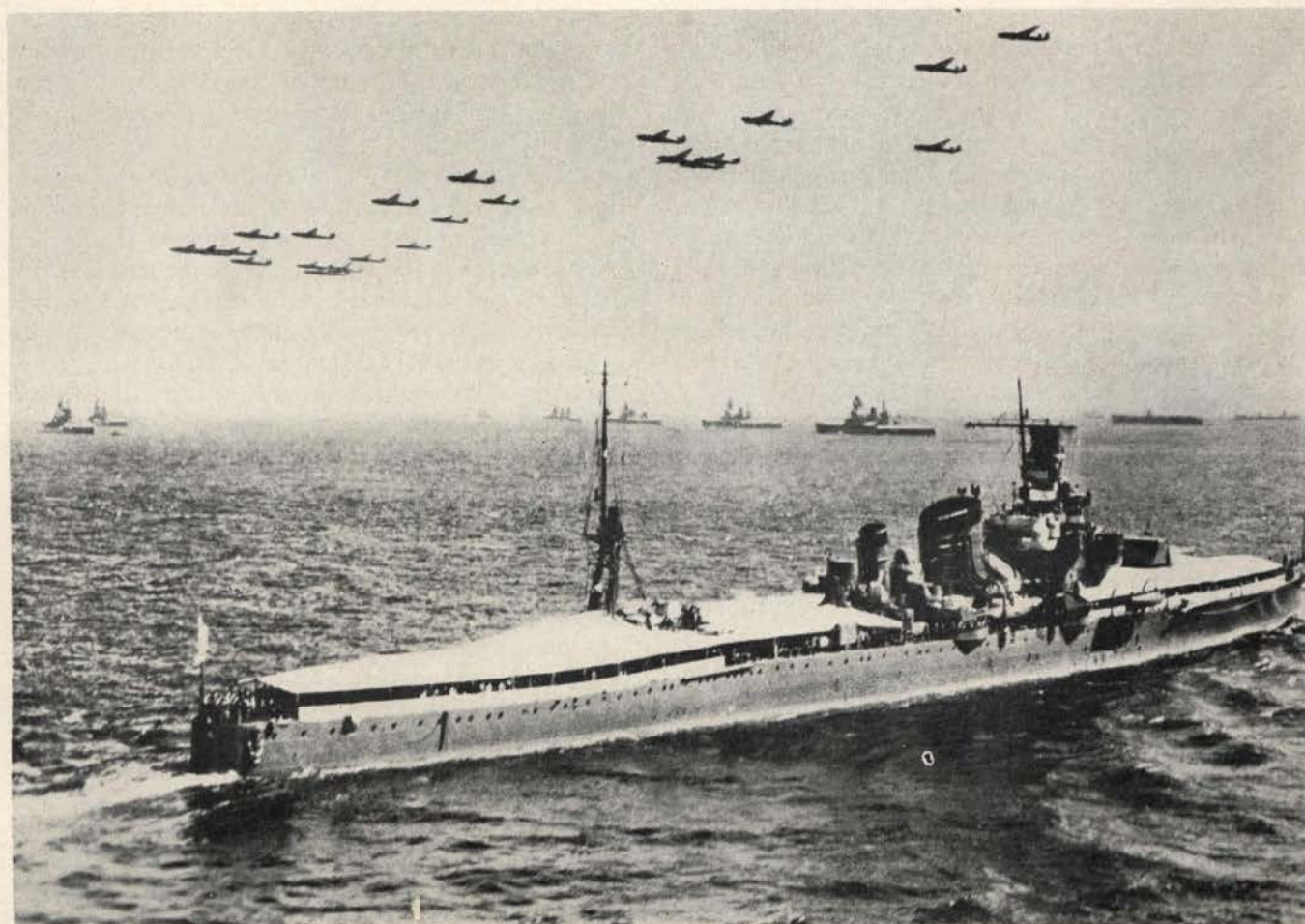
tical doctrines, a proving ground for its matériel, and a training school for its personnel. The constant rotation of officers and men through the ranks of the active divisions on the China front has built up a magnificent reserve of men with combat experience. Many of these were used as nuclei in the 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 strik-

ing 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.



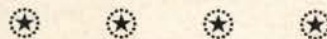


Jap Machine-Gunners in action on Chinese front.

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

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 information 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 strategic 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.

# German



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 Saarbrücken; 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

\*Former American Military Attaché, Berlin, Germany.



# y's War Machine



Red Army in a savage counteroffensive forces Germans to fall back.

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

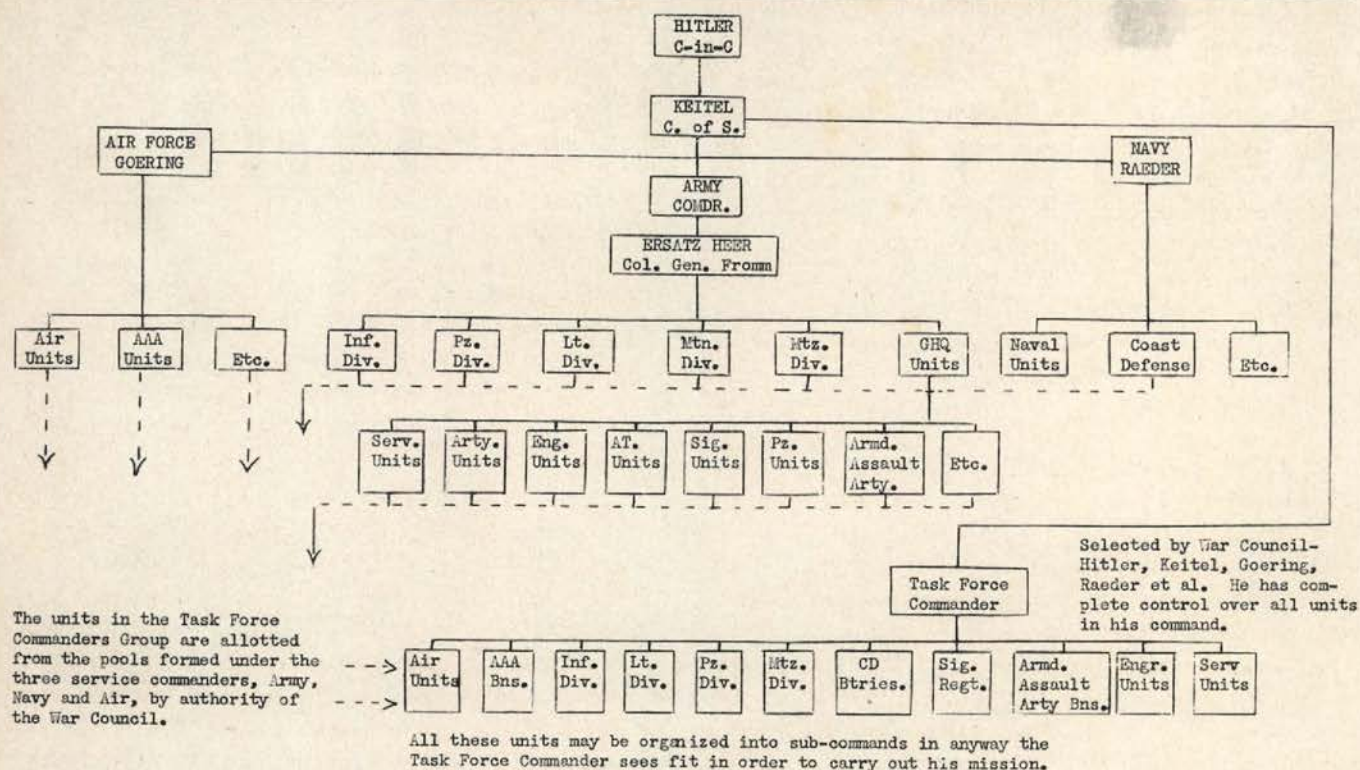
used to meet a military emergency until the time can be gained to resume the attack.

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)  
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?).
2. The Enemy
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 matter 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 reallocated 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.

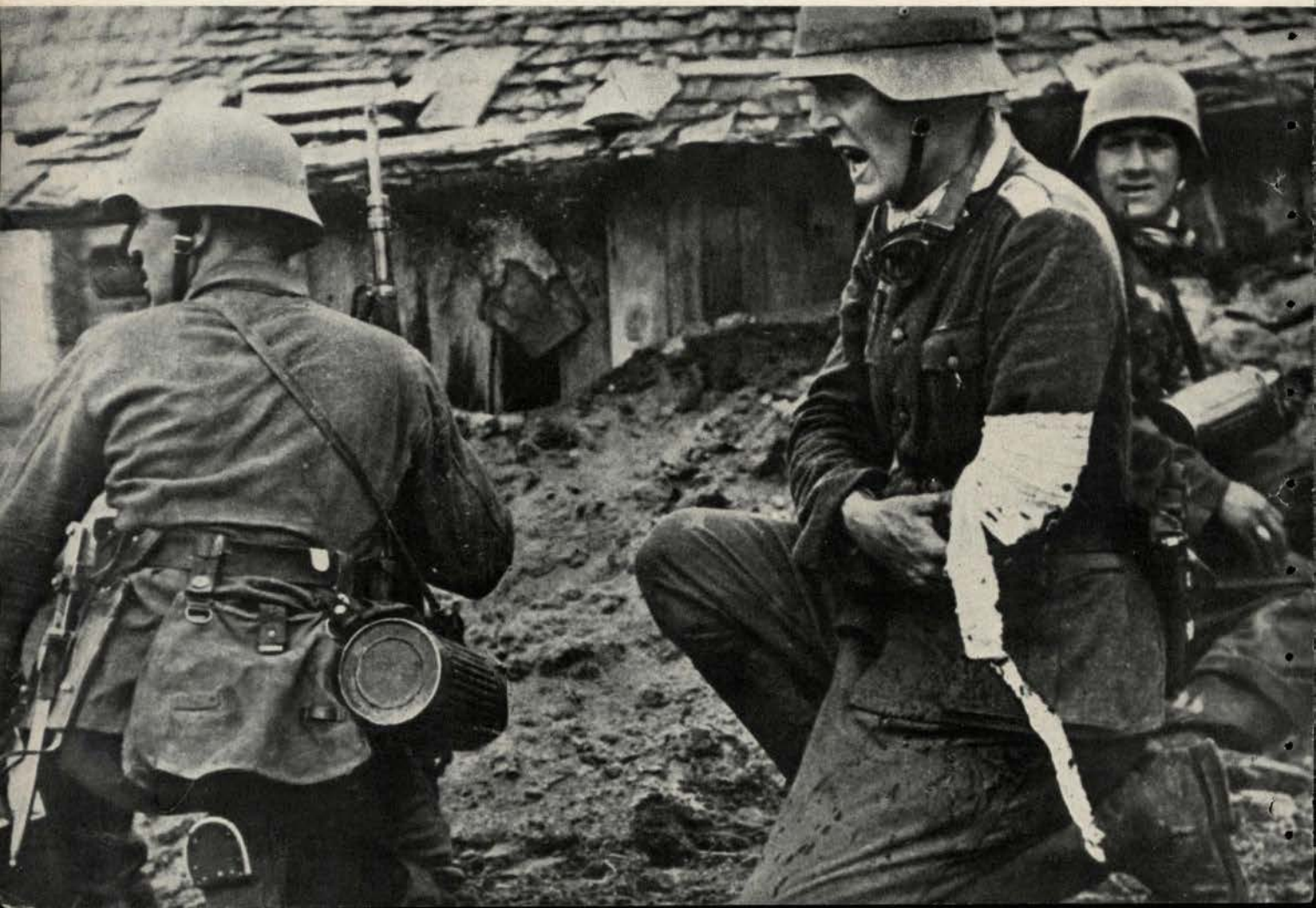
Information of the enemy is vital. Based on this intelligence, decisions are made, plans are formulated, and task forces are organized, equipped, and trained.

Consequently, the Germans place great stress on the functions of their military intelligence service and, in the field, on their reconnaissance agencies.

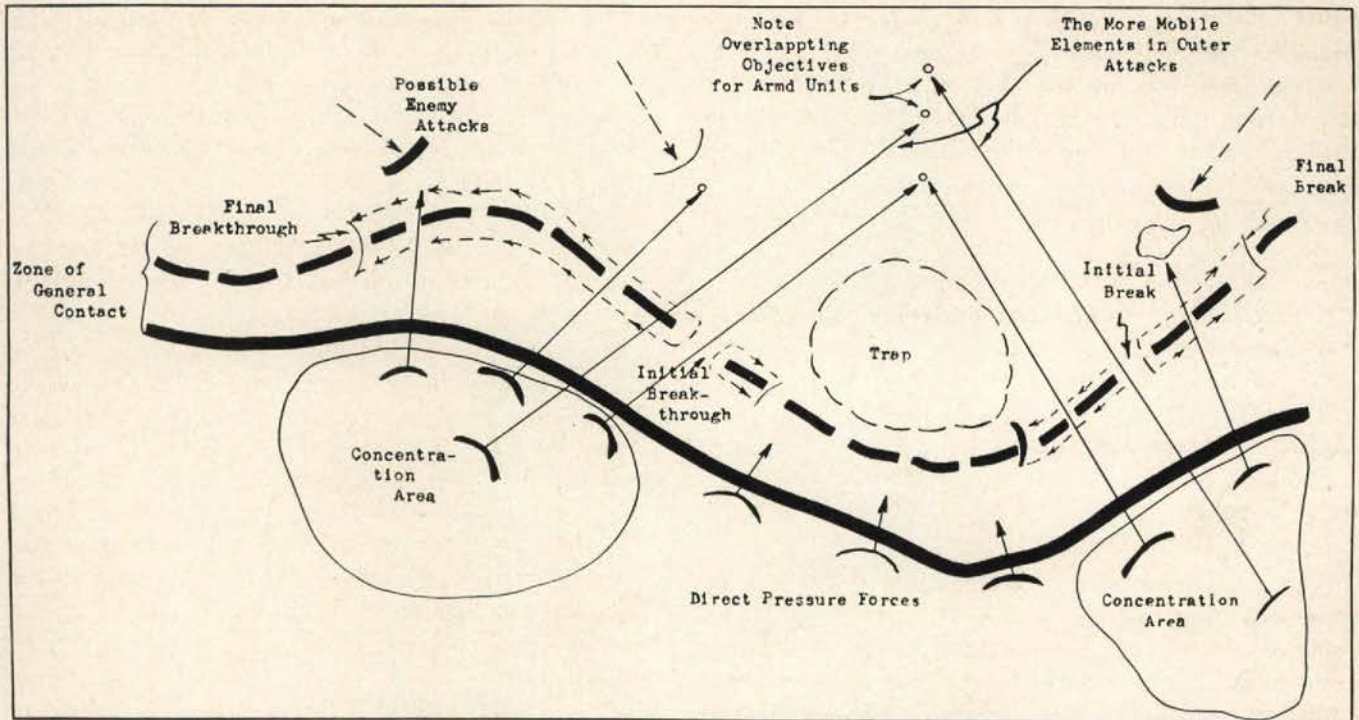
German reconnaissance units are very aggressive. They are trained in this way in order to obtain specific information and in order to deny information to their opponents (preserve secrecy). These reconnaissance units are often reinforced and will usually attack as soon as contact is established. If the 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 ma-

neuver 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

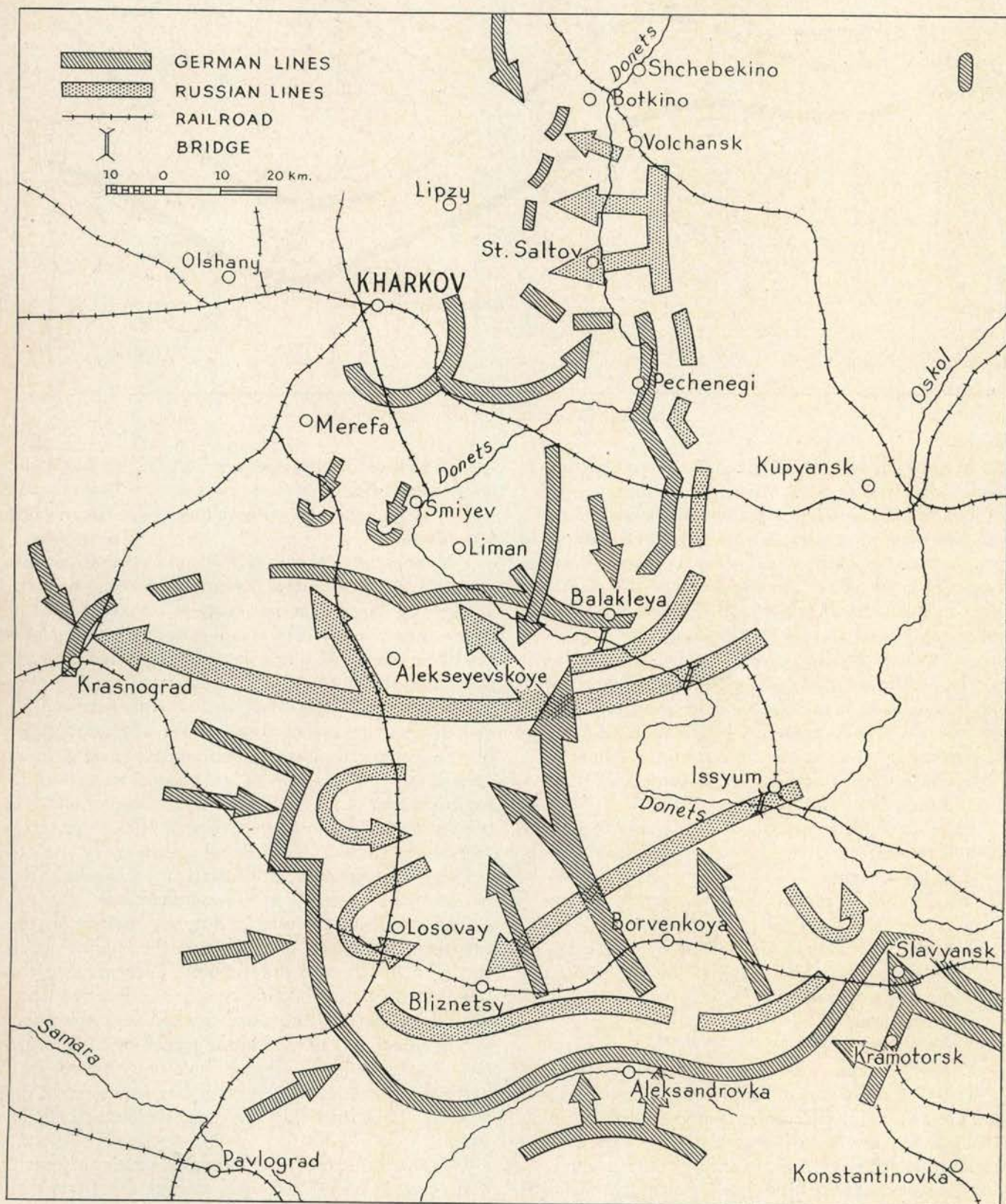


follow the operations of their own command, study the terrain and watch for traps.

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

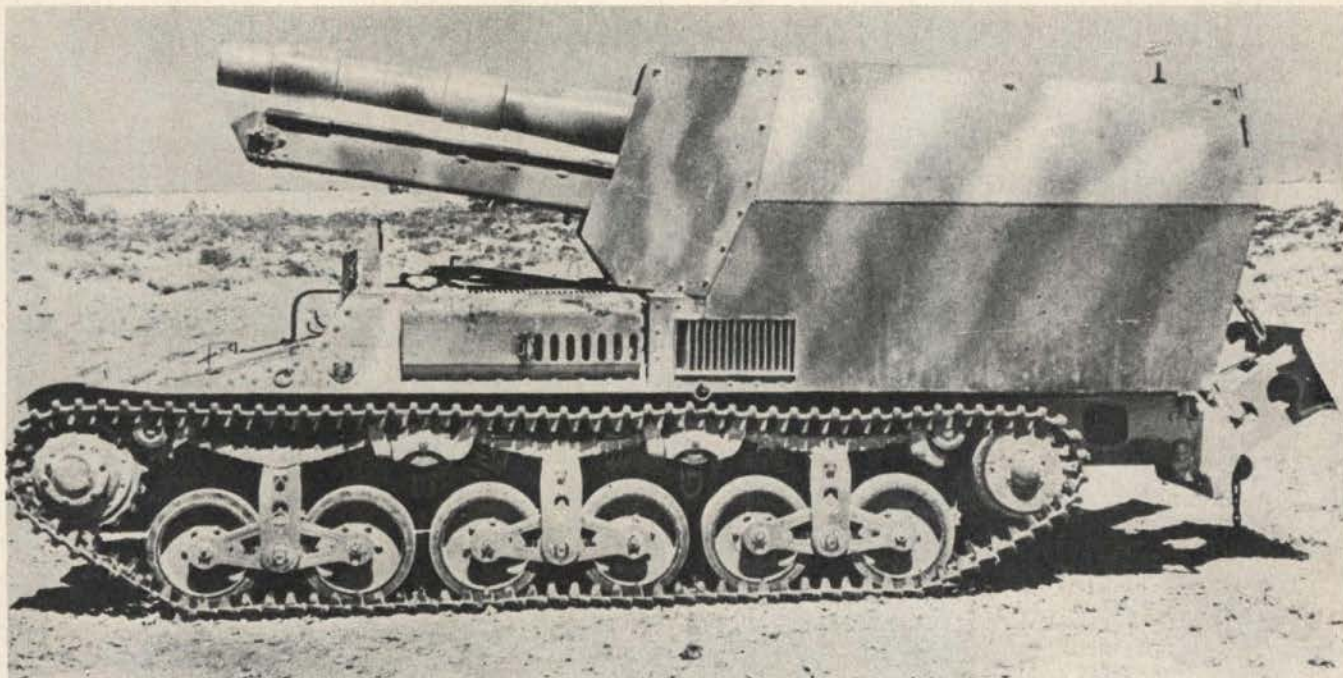
German recognizes that a well coordinated attack with modern weapons cannot be stopped by any line, no matter how well fortified it may be.

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 uncoordinated 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.



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





### THE MEDITERRANEAN AREA

Americans are pushing forward from the West, while the British pursue the fleeing German Army from the East.

about by this war, and the vital importance of Africa as a link to future victory.

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, anti-aircraft 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."

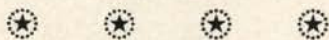
I did not remind him that America had not yet added her first punch.

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 positions 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 hull-down 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 against 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 directions. 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 obser-

vation 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 ele-

\*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.

ments 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 in-*

*formation 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-



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 reconnaissance 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 recon-  
naissance 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."<sup>1</sup>

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-

<sup>1</sup>*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 *Ejército* 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, cooperate 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.



# General Hawkins' Notes

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 Douhet 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 cooperating partner. The co-operation 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 ex-

perience 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.

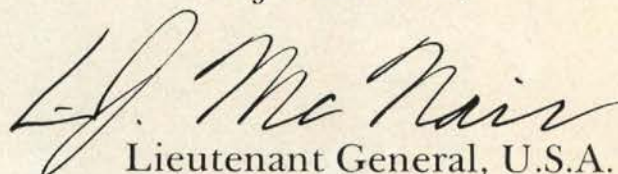
To the older soldiers, I send a plea for an all-out, unceasing effort in training. It will pay richly on the battlefield, bringing success to our arms and enhancing your own chances of returning home.

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,



Lieutenant General, U.S.A.  
Commanding.



# Editorial Comment

## 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 Capraia.

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 circum-

stanced 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 resurrection 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.

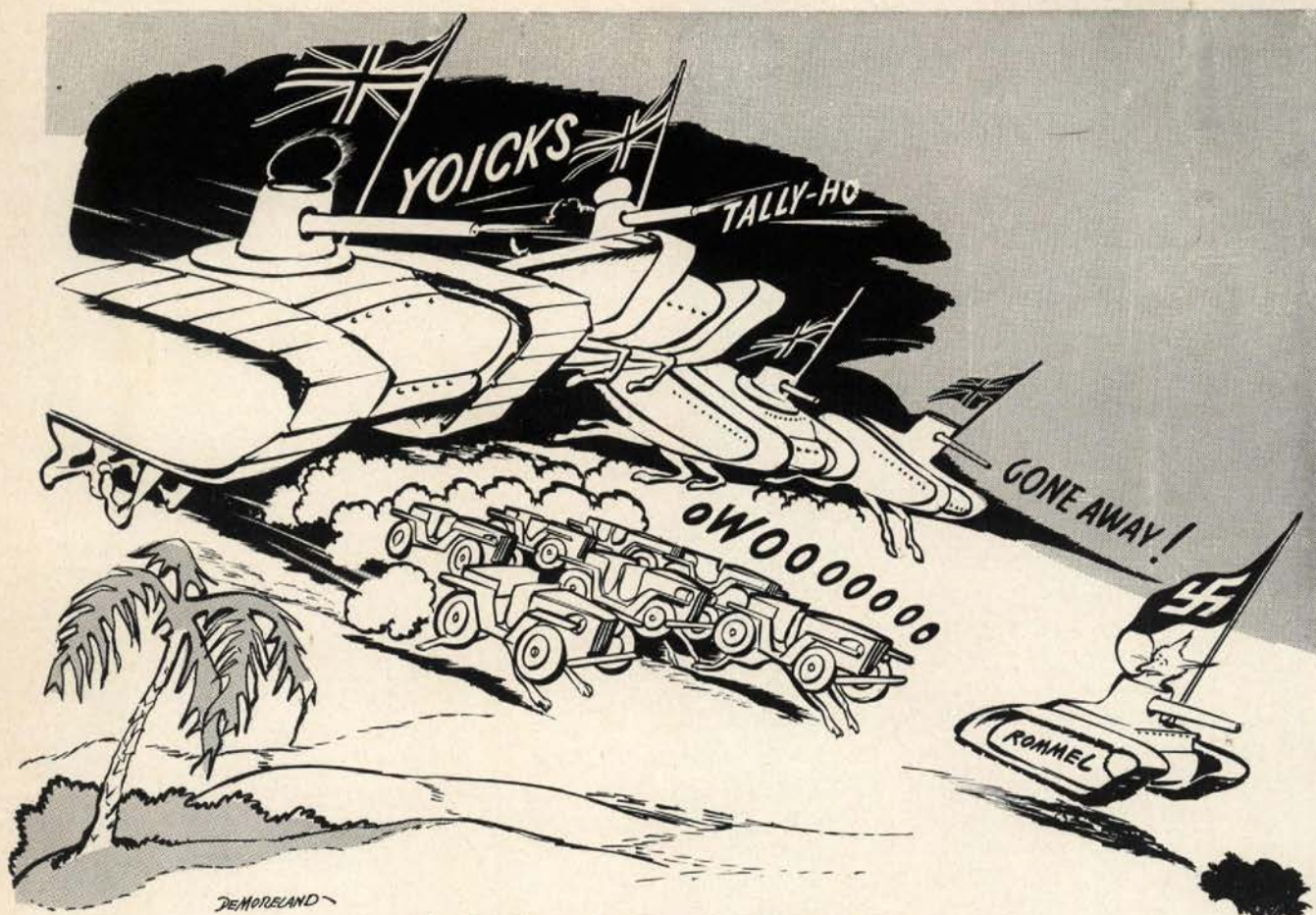
✓ ✓ ✓

## 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 P.M., 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.

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### 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 coordinated 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 cohorts 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 its call. Men everywhere will understand its 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. Yeruslimsky*

A RECENT Berlin broadcast contained some very significant statements. We refer to Lieutenant General Dietmar's latest reviews of the operations 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 Ger-

\*Krasnaia Zvezda, 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.

man 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.



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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 em-

phasis 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\**

**D**URING 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 coordination 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 co-operation 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.





# 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 counter-manuever. 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 ambushes 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 ambushes 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 rout. 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 ef-

ected 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 untacked 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.



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. Varshauski, 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 coordinated 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<sup>\*</sup>

*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

<sup>\*</sup>By cable to The CAVALRY JOURNAL through ICN.



Cavalry attacking the enemy in coöperation with tanks and aviation in vicinity of Kharkov.





# Tank-Mounted Riflemen

*By Colonel Kononenko, Red Army*

**T**ANK 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 auto-

matic 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 cooperation 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 cooperation between enemy units that occupied the stronghold.

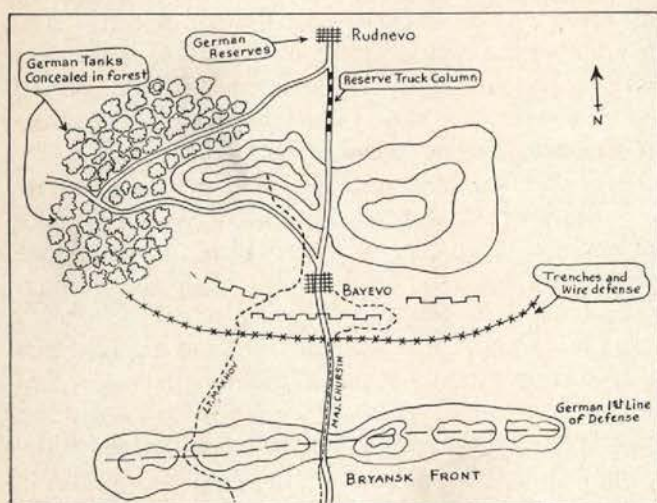
About eight kilometers behind the German front line was a height which commanded the road between Bayevo and Rudnevo and the enemy positions. It was absolutely necessary to capture that height first. All approaches to the forest, sheltering enemy tanks, could be kept under fire from that height. It was 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 Churin'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 battlefield 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 cooperation 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 cooperation of combat aviation and ground troops and to test the principles set forth in this field manual.

A recent article<sup>1</sup> 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

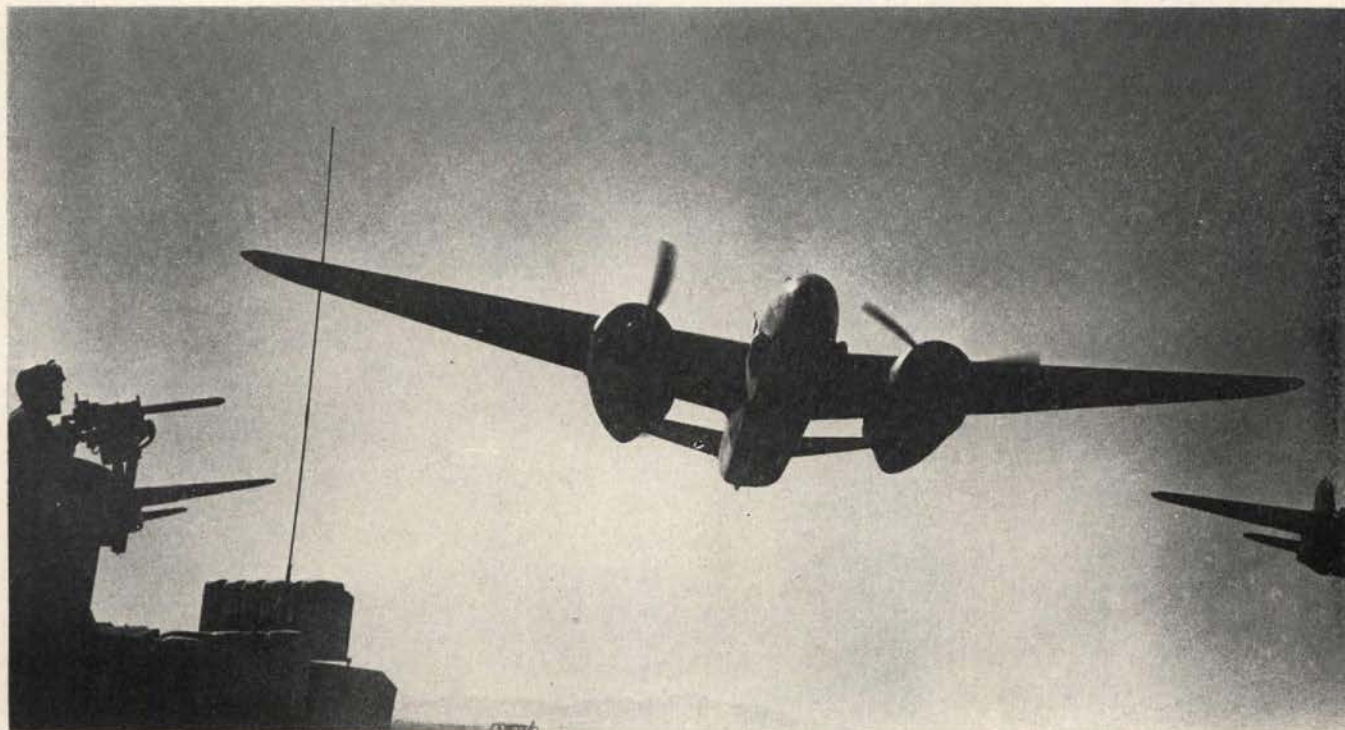
the Armored Force—Air Team can obtain the most effective support from its air components.

## 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-

<sup>1</sup>"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."<sup>2</sup> 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

<sup>2</sup>Field Manual 17-60, 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 pre-arranged 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

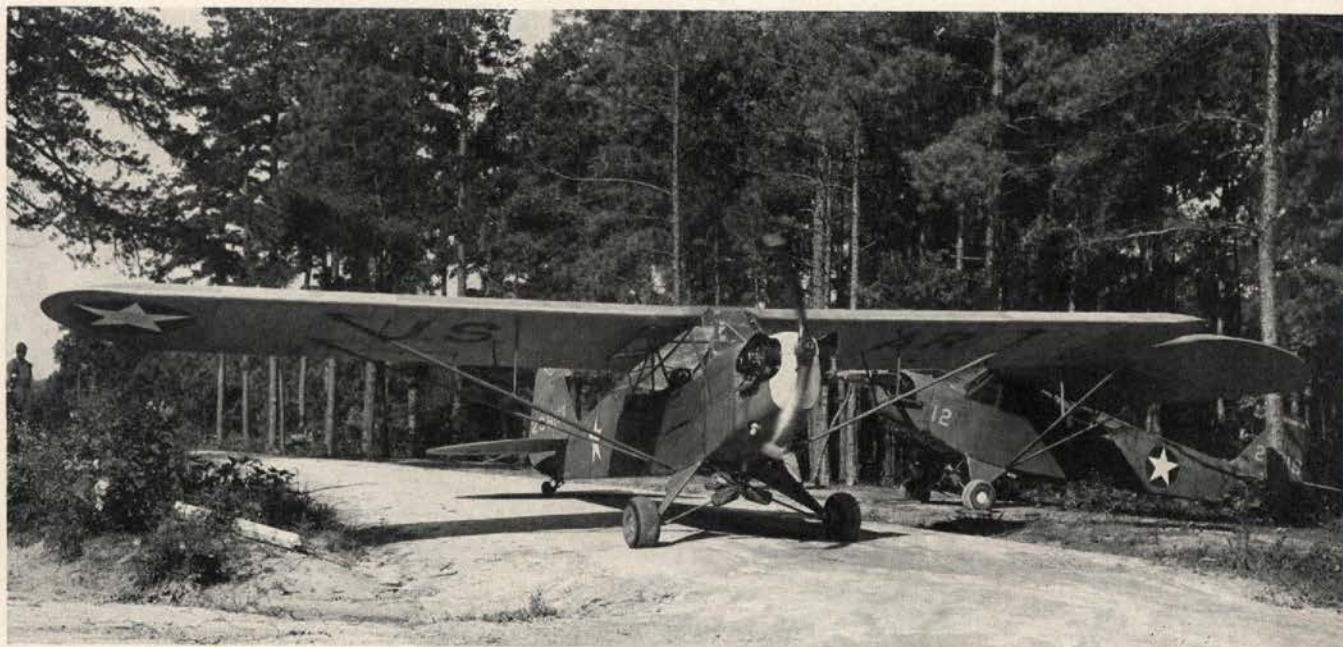
Enough has been written in the appropriate field manuals and elsewhere on the types of missions, suit-

able 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."<sup>3</sup> And "the final decision as to priority of targets rests with the commander of the supported unit."<sup>3</sup>

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

<sup>3</sup>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 cooperation 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 cooperation between the elements of the Armored Force—Air Team is dependent, therefore, on coordination 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 cooperation and understanding can only be achieved through combined training, and the same units are permitted to train and fight together.



# The División 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 Belah 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.

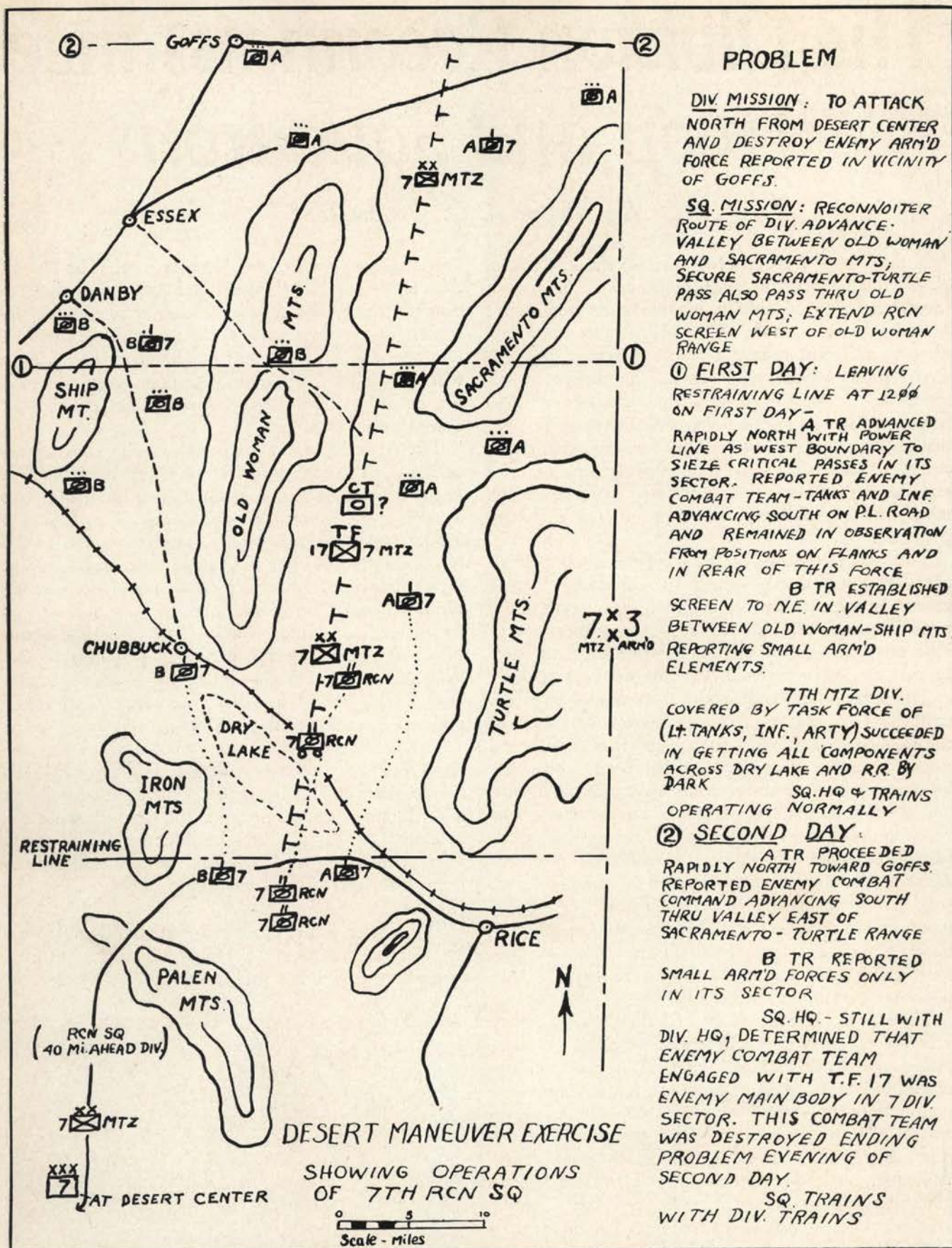
The platoon leader needs constant attention. He has had little experience and probably has only latent leadership qualities. It is a problem to develop a cagey, ag-



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





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 re-

connaissance 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

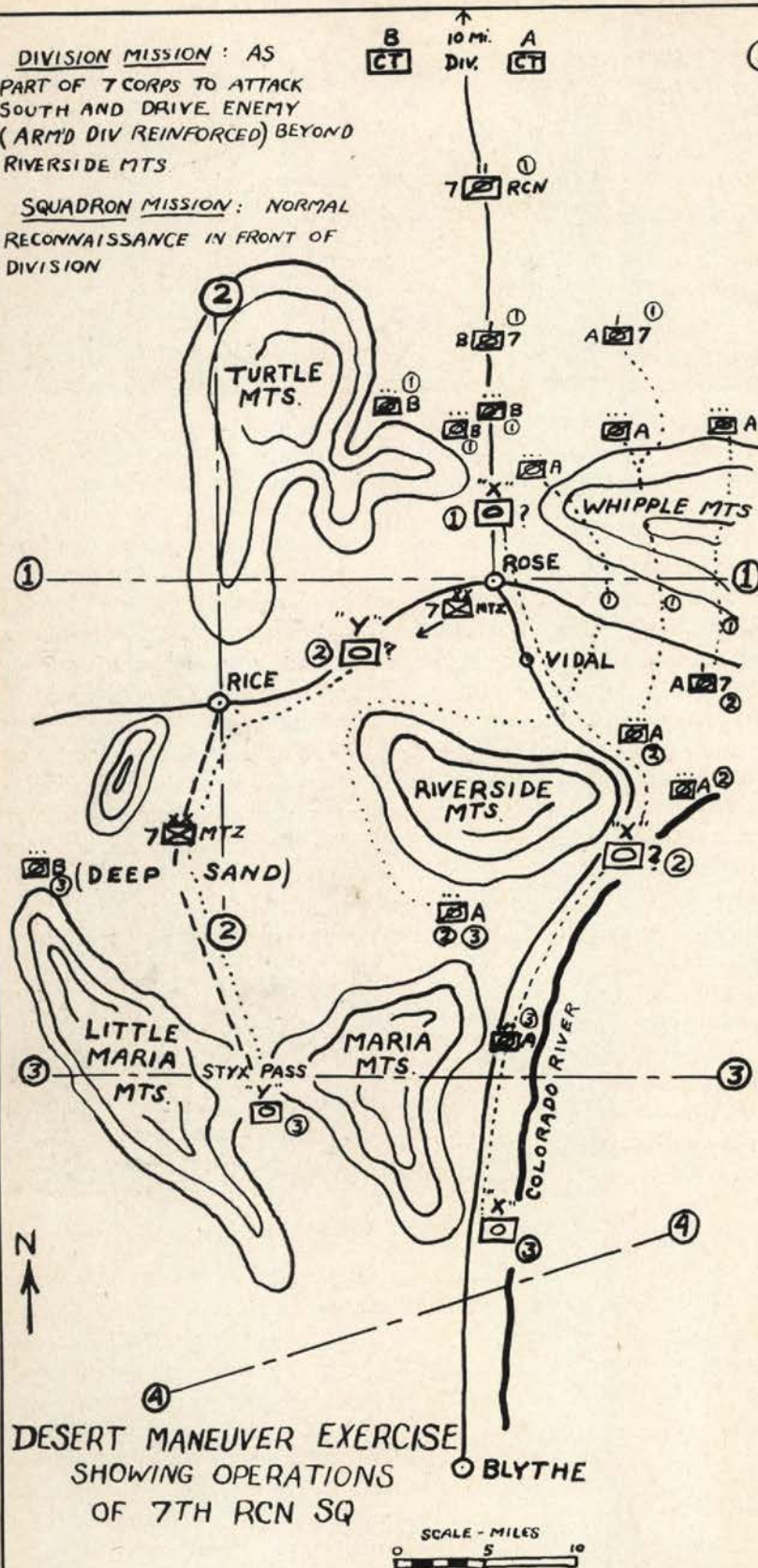


Deep sand sometimes proves to be an obstacle.



**DIVISION MISSION:** AS PART OF 7 CORPS TO ATTACK SOUTH AND DRIVE ENEMY (ARM'D DIV REINFORCED) BEYOND RIVERSIDE MTS.

**SQUADRON MISSION:** NORMAL RECONNAISSANCE IN FRONT OF DIVISION



① **FIRST DAY:** B TR GAINED FIRST CONTACT, WAS HALTED IN FRONT OF WHIPPLE-TURTLE PASS, AND REVERTED TO SQ RESERVE WHEN RELIEVED BY COMBAT TEAM "B"

A TR SLIPPED THRU WHIPPLE MTS AND REPORTED DISPOSITIONS OF ENEMY ARM'D FORCE "X" FROM POSITIONS ON HIS FLANKS AND REAR

② **SECOND DAY:**

DIRECTION OF 7TH MTZ DIV ATTACK CHANGED BY CORPS - NOW WEST FROM ROSE.

B TR PRECEDED DIV. TOWARD RICE

A TR FOLLOWED CLOSELY RETREAT OF ENEMY FORCE "X". PERFORMED AGGRESSIVE COUNTER-RECONNAISSANCE TO PREVENT KNOWLEDGE OF CHANGE IN PLANS.

SQ. HQ. WITH DIV. HQ.

SQ. TRAINS WITH DIV. TRAINS.

③ **THIRD DAY:**

DIV. TURNED SOUTH AT RICE AND WAS HALTED BY NIGHT IN FRONT OF STYX PASS. DEEP SAND SERIOUSLY INHIBITED FREEDOM OF MANEUVER AND CANALIZED RECONNAISSANCE.

B TROOP PRECEDED DIV. AS FAR AS PASS THEN WENT INTO SQ. RESERVE.

A TR. PERFORMED ACTIVE RECONNAISSANCE FOR EARLY DETECTION OF ENEMY REINFORCEMENT OF "X"

SQ. HQ. WITH DIV. HQ

SQ. TRAINS WITH DIV. TRAINS.

A & B TR. CARRIED ON CONTINUOUS NIGHT PATROLS YIELDING VALUABLE INFORMATION ON ENEMY DISPOSITIONS, PARTICULARLY IN PASS NORTH OF LITTLE MARIA MTS

④ **FOURTH DAY:**

DIV. BROKE THRU STYX PASS. PROBLEM ENDED.

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 operation. 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.



PLACE UNITS IN BIVOUAC SO THEY WILL NOT HAVE TO GO THROUGH ANOTHER UNIT'S BIVOUAC, IN FORMING COLUMN FOR NEXT DAY'S MARCH.



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.



LEAVE A GUIDE AT THE OLD C P



KEEP TRAFFIC MOVING.



SEE THAT YOUR KITCHENS DO NOT GET LOST.



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.



POST CP SIGN AND GUARD AT ENTRANCE OF CP. PARK CARS AWAY FROM CP



POST GUIDES. DON'T LET YOUR COLUMN TAKE THE WRONG ROAD.



POST SECURITY AND OBSERVATION AT EACH HALT—NO MATTER HOW SHORT. DO NOT LET YOURSELF BE SURPRISED.

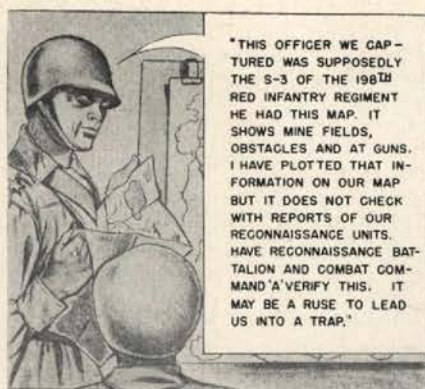


DON'T LOAD YOUR KITCHEN WITH SO MUCH IMPEDIMENTA, THAT THE COOKS ARE UNABLE TO WORK, WHILE EN ROUTE.



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.



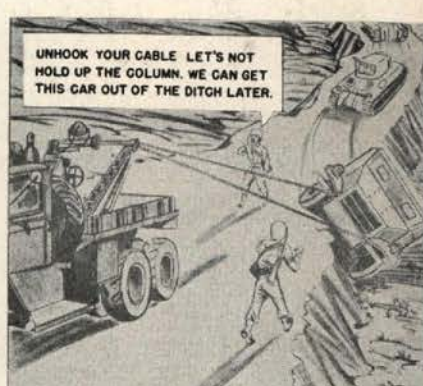
WATCH YOUR FLANKS



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*

**T**ANKS 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 battle-field.

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 Cosantoir*, 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 7 and came to Camp White in July.

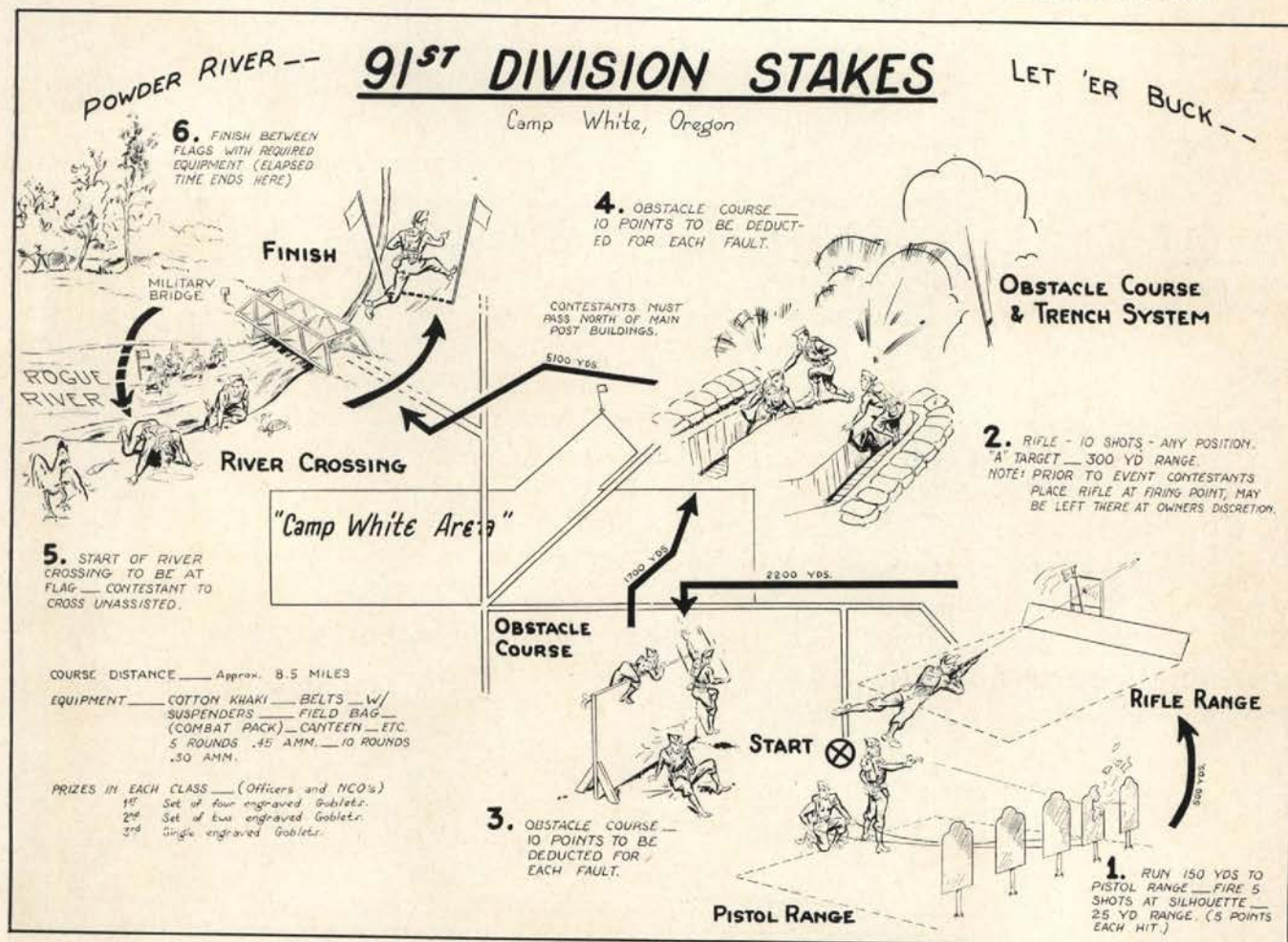
Chaplain R. D. Russell took second place with three points deducted, but his time of two hours, thirty-three minutes kept him from sharing first place. The chaplain, with nine years in the Infantry Reserve, also came to Camp White in July. He formerly served as post chaplain at Brooks Field, Texas, for 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 Hid-also, 361st Infantry, with a deduction of eleven.





# NONCOM QUIZ

## FOREIGN MAP READING\*

**B**EFORE 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.)

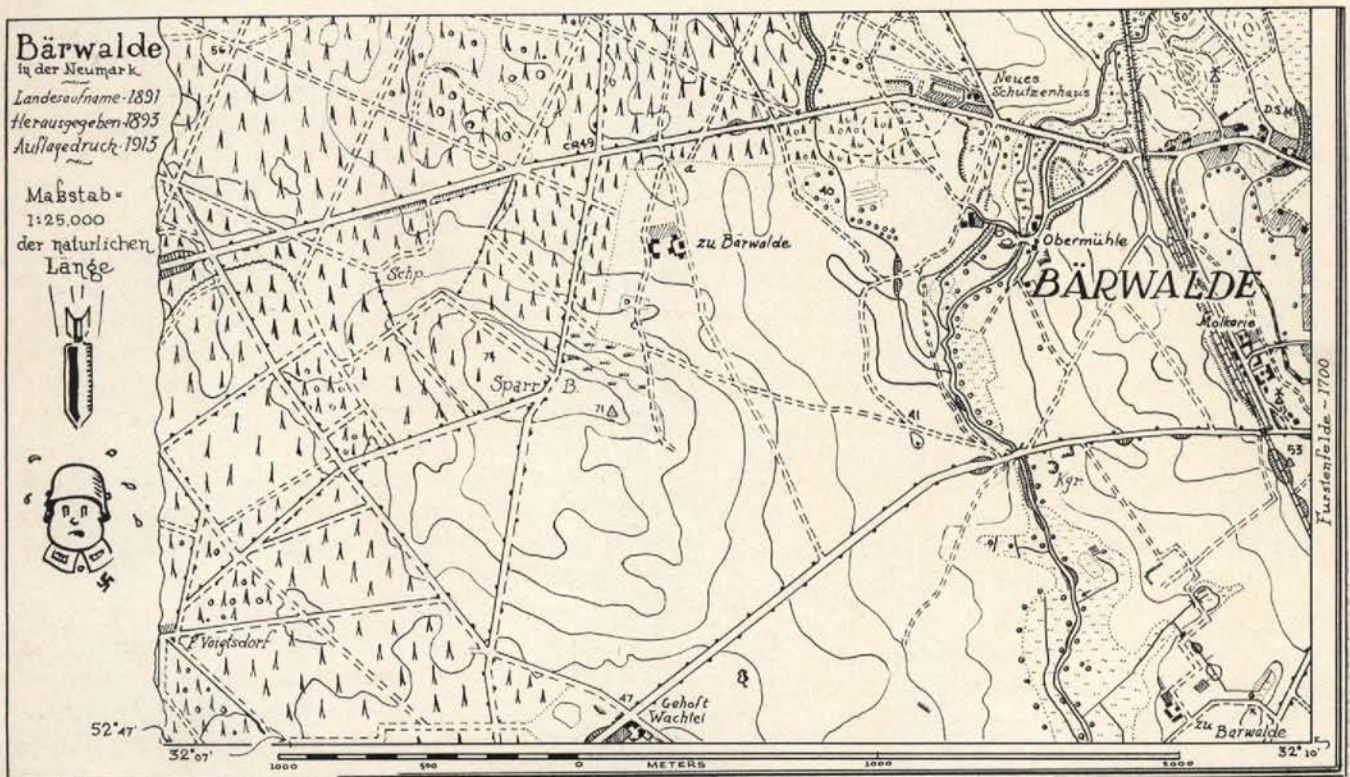
b. What is the magnetic azimuth of the line-of-sight from the triangulation station to GEHOFT WACHTEL?

5. From GEHOFT WACHTEL your patrol returns to the ALT BLESSIN road, traveling via F VOIGTSDORF (lower left).

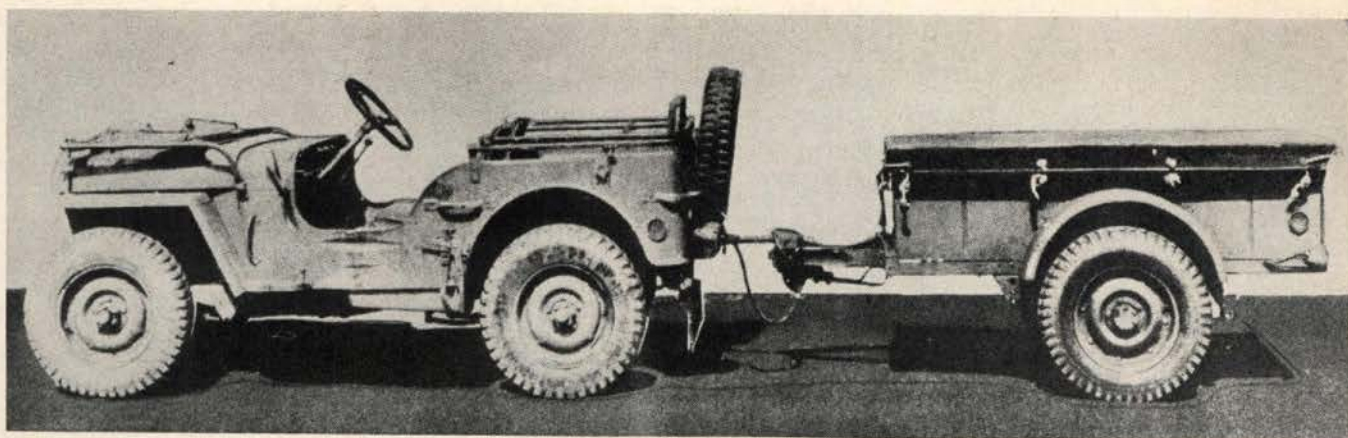
a. Is F VOIGTSDORF on higher or lower ground than GEHOFT WACHTEL?

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  $2\frac{1}{2}$  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. There-

fore, 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  $2\frac{1}{2}$ -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  $\frac{1}{4}$ -ton truck, or jeep, peep or bantam, as it is variously called.

The  $\frac{1}{4}$ -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, horseshoers, 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\**

66 **T**ANKS 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.

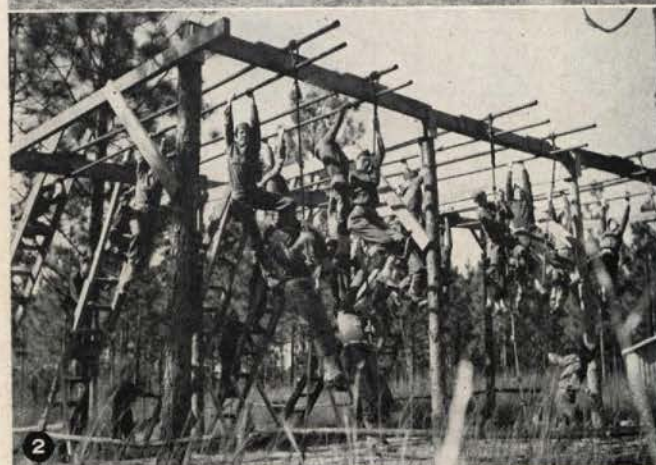
A program was worked out for the battalion with a threefold objective in mind; first, to properly condition the men; second, to install an aggressive fighting spirit

\*823d 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.\**

**H**OT 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 established 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., Yes No  
A. G. O. Form No. 65-1).—A threefold  
card with photograph, fingerprints, sig-  
nature.
- (2) *Identification tags, metal* (two), show- Yes No  
ing—
  - (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 Yes No  
Government checks.
  - (b) *Special.*—For use only in cashing Yes No  
Government checks.
- (4) *Will.*—Officers going overseas should Yes No  
make a will.
- (5) *Statement of service.*—If a National Yes No  
Guard Officer or Reserve officer.
- (8) *Passport.*—If passport is required do Yes No  
you have one?
- (9) *Visas.*—If passport is issued, has it been Yes No  
visaed for all countries in transit?
- (10) *Passport photographs.*—Seven extra Yes No  
copies.
- (11) *Information booklets.*—Have you been Yes No  
provided with information booklet on  
the country to which you are going?
- (12) *W. D., A. G. O. Form No. 41.*—(Des- Yes No  
ignation or Change in Address of bene-  
ficiary.)
- (13) *W. D., A. G. O. Form No. 43.*—(Emer- Yes No  
gency addressee and Personal Property  
Card.)
- (14) *APO number.*—Do you have your APO Yes No  
number?
- (15) *Clothing.*—Is your uniform complete? Yes No
- (16) *Field equipment.*—Has complete field Yes No

equipment been issued to you by the  
quartermaster?

- (17) *Air priority.*—If traveling by air has a Yes No  
priority been arranged for you?

## b. Financial.

- (1) *Allotments.*—Have you made allot- Yes No  
ments of pay to cover any of the follow-  
ing:
  - (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* Yes No  
*War Bonds.*
- (3) *Uniform allowance.*—Are you eligible? Yes No  
If so, do you have copies of statement  
of service and of original active duty  
orders?
- (4) *Mileage allowance.*—Are you entitled Yes No  
to mileage from last station? If travel  
was performed by transportation re-  
quest, you must have two copies of  
W. D., T. C. (Q. M. C.) Form No.  
207 (Transportation Certificate for  
Passenger Travel).
- (5) *Per diem.*—Are you traveling on a per Yes No  
diem?
- (6) *Rental certificate.*—Showing nonassign- Yes No  
ment or termination of quarters at last  
station.
- (7) *Pay data card.*—Showing pay and al- Yes No  
lowances. Is it up to date, showing all  
deductions?

## c. Medical.

- (1) *Immunization Register* (W. D., M. D.  
form No. 81).
  - (a) *Required:*
    1. Smallpox, one vaccination. Yes No
    2. Typhoid paratyphoid, three in- Yes No  
jections, one-week intervals.
    3. Tetanus, three injections, 3- Yes No  
week intervals.
  - (b) *When ordered:*
    1. Yellow fever, one injection. Yes No
    2. Cholera, three injections, one- Yes No  
week intervals.
    3. Typhus, three injections, one- Yes No  
week intervals.
- (2) *Blood type.*—Blood type should be Yes No  
shown on register and identification  
tags.
- (3) *Dental attention.*—All teeth should be Yes No

\*See W. D. 1942 Circular 333 for full details.



checked for cavities and taken care of before departure.

(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 overseas 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.



## Cavalry and the Australian Front<sup>\*</sup>

**M**IGHT 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 it 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.

<sup>\*</sup>Reprinted from *The Chronicle*



# Book Reviews

## 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.

## HOW TO WIN IN HAND-TO-HAND FIGHTING

*As taught to the British Commandos  
and U. S. Armed Forces*

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By MAJOR  
W. E. FAIRBAIRN

At present Major Fairbairn is in the United States, on loan from the British Army, teaching close-combat to instructors of the U. S. Armed Forces.



- ▶ You don't need brute strength.
- ▶ It isn't jiu-jitsu.
- ▶ It's “dirty fighting” raised to a science.
- ▶ It's 100% effective.
- ▶ It's a system so deadly that it has the Nazis buffaloed. It has enabled the Commandos, (and now the Rangers!) to raid the French and Norwegian coasts at will—bringing back prisoners and leaving demoralized German garrisons in their wake. One British officer, Lord Lovett, led a Commando attack after being Major Fairbairn's pupil for only two weeks. When he returned from that raid he summed up the unfailing efficiency of this method in a two-word cable to the Major: “It works.”

It is better than jiu-jitsu (judo). It is potent with or without weapons. It gets results *fast*. It serves every requirement of the man who can't call for help—who may have to battle several opponents, come out alive and bring in prisoners. “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 Cavalry Journal*.

*Illustrated.*

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## In The Army Now

By PRIVATE GENE GACH

... A colorful story of his life since he entered the army as a cavalry selectee. ... Not merely an account of events and contacts, ... rather a vivid novel of life in the army as seen from the bottom up.

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## There Go The Ships

By ROBERT CARSE

"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."

This is another of those books that "everyone should read."

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## They Were Expendable

By W. L. WHITE

This is the story of Motor Torpedo Boat Squadron 3 and their brilliant record in the Philippine Campaign.

Every man and woman should read it. (See Book Review, this issue.)

\$2.00

*No. F-23 on Cavalry Journal book list.*

## The Army Wife

By NANCY B. SHEA

A grand gift for the Army helpmate—young and old.

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*No. G-5 on Cavalry Journal book list.*



*The Cavalry Journal*

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 devices; 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 small-pox 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.

It is written not only for the mess officer or mess sergeant "but for every man in the organization whose duties affect the messing of the organization."

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Czechoslovakian Army

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## Officers' Guide

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Incorporates many of the developments and changes that have occurred during the past few months. . . . Contains advice on Uniforms, Equipment, Military Courtesy—much other inspiring counsel on the problems facing the officer on active duty today. 410 Pages; Index.

**\$2.50**

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.

1 1 1

**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.

1 1 1

**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.

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# Horse Feathers



## 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."



"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."



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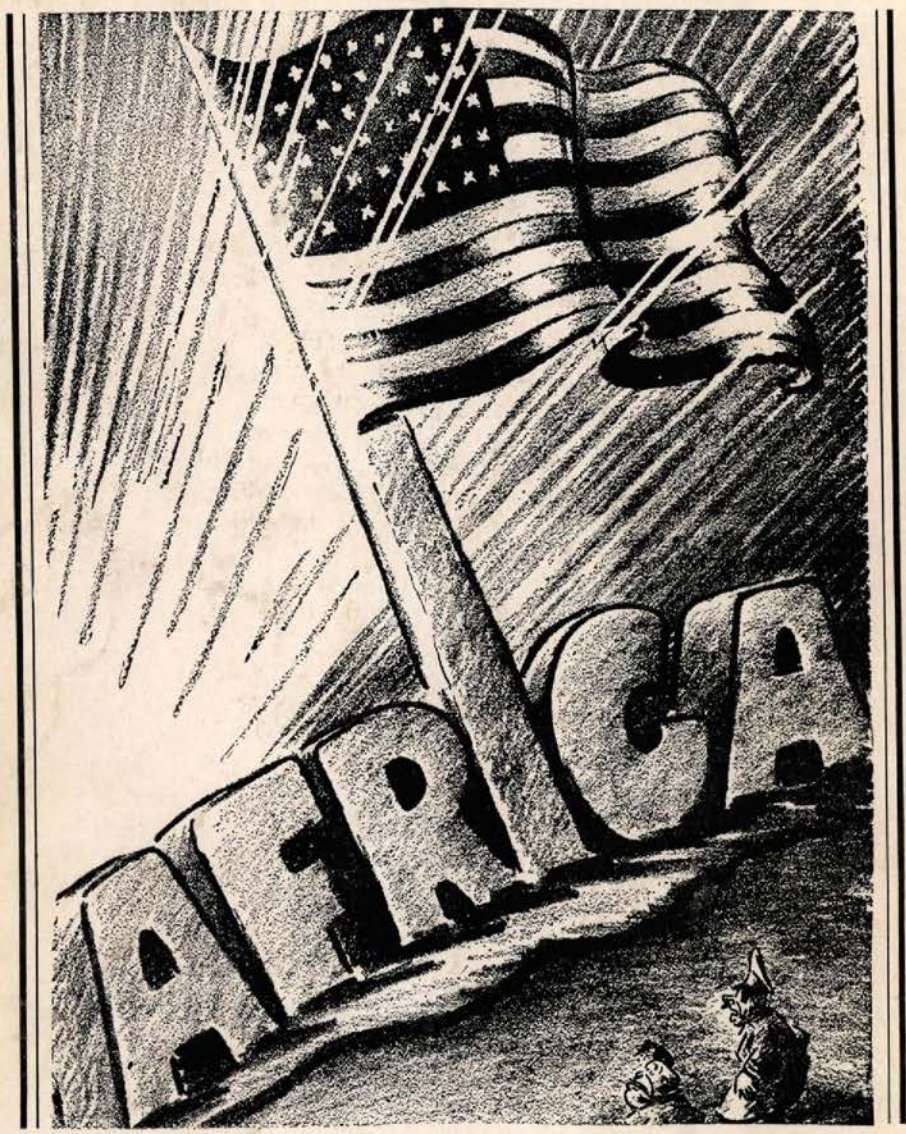


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